

BRITAIN'S ONLY SCIENCE STORY WEEKLY

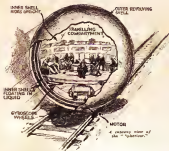
Scoops

STORIES of the WONDER-WORLD of TOMORROW



A British Inventor Designs—

The 500 m.p.h. CANNON-BALL CAR



The Magnetic Sphericar as another vision of Future Transport

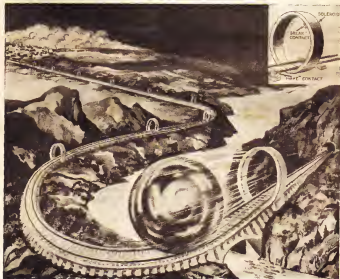
A SPHERICAL car, propelled by magnetic attraction, is a new method of transport proposed by a British inventor, H. K. Whitehorn.

This amazing project, an impression of which is reproduced below, consists of a "Sphericar" with an external shell of a magnetic substance, which will be driven by means of giant solenoids along the track, each operating as the car passes it, and so two operating at once so as to retard the car's passage.

Within the external case of the car are one or more inner shells, working in layers of fluid (oil or mercury) so that internal friction is avoided. Sufficient ballast is carried in the bottom of the magnetic shell to ensure that it will keep an upright position, no matter how the outer shell may revolve, so that it would be perfectly safe for passenger travel.

It has not yet been decided how the car should be stopped, but it is suggested that it should enter a stopping place through a slotted tube, the slots decreasing gradually in size, until it is stopped by air compression.

The inventor claims that the speed which Sphericar could attain is limited only by human endurance capacity. He expects an average speed of 500 miles an hour—which would mean that the journey from London to Glasgow could be made in 45 minutes! A fascinating project.





The Man who

★THE DIAMOND THAT COST
FOURPENCE

MEYER, head of the South African diamond combine, glanced anxiously at the sheets of stately typed footings.

Market prices of the combine's output of diamonds were steadily falling, and Meyer wanted to know the reason why. Production had been locked by agreement, which appeared to suggest that some time—some unspecified—was challenging the combine by reducing its output.

Meyer knew well enough that whilst diamonds are comparatively rare the price need remain high. Their diamonds are common as the pebbles on a beach and they do not worth just about as much. He pressed one of the rows of lighter buttons on his desk, and a member of his staff appeared.

"You rang, sir?"

"Yes. You will communicate with our agents and give them instructions that it is imperative that they locate the person who is spreading the market. Tell them to visit the bars and hotels. It is possible that some prospectors has struck it rich and is selling his stones to a hundred different people. Tell them it is imperative that the source of the trouble is located."

He turned back to the papers on his desk, and the secretary immediately closed the door. Barely a minute later the door opened a voice spoke from his desk, respectfully.

"Mr. van Duzend is here, sir."

"Show him in."

Meyer looked up at the agent entered, and van Duzend got straight to the point.

"I have found the man who is killing the

Made DIAMONDS

From common carbon he made diamonds, made and sold them to cheaply than the bottom fell out of the diamond market. "He sought to bedeck women girls with costly gems, but his dream went with the flames of the furnace in which he performed his apparent miracle."

By Michael THOMAS

market. His name is Jones—Nathaniel Jones."

Meyer frowned. "I don't know the name. He is a poor boy."

"Yes—a street boy," the agent said softly.

Meyer looked the papers aside in sudden amazement. "Don't talk so softly, man. Who is he? What is he? How is he doing it?"

"Making them."

"Making them? You're mad? They tried that a century ago—and failed to get the real thing. Thirty years ago they tried again—and realised that it is impossible. What are they—demon fakes?"

"The agent extracted a wad of cotton wool from his waistcoat pocket, with a hundred fine diamond twifling in its depths. He placed it on the table in front of Meyer.

"What do you think of that?"

The diamond bag lifted it carefully, took it to the light, examined it from a dozen different angles. "It's perfect," he murmured, almost to himself. Suddenly he seemed to realise the position. He swung round on the agent. "It's worth every penny of six thousand! Where did you get it? Where is it?"

"It's gone," the agent said quietly, with a queer smile playing about the corners of his mouth. "Nathaniel Jones told it to me—for fourpence."

Meyer staggered, his lips opening and closing on the words that wouldn't come. At last he spoke. "That is true! You bought it from this man Jones for—a pitifully nothing?"

The agent nodded. "That's the truth, Chief. He made that himself, he's made hundreds more like it. Not common yellow stones, but the blues and the reds that fetch the price. And he's selling them at anything from twopence to a shilling each, and making what he calls 'a fat profit' on them. He's only just started, but unless we fix him quick, they'll be selling genuine diamond necklaces at the very next moment."

Meyer sat heavily in his chair. When he looked up the incredulity on his face features had given place to an almost unconscious cunning. "We've got to stop him, van Duzend—got to stop him quick. The market's falling already. Get him to come and see me."

The agent laughed. "This fellow is a



The scientist and his "bodyguard" swung round to find themselves looking down the short barrel of a revolver. "Stand away from that bench, and get your hands up!" the gunman said.

Continuing The Man Who Made DIAMONDS

And Nathaniel Jones had no wish to do what his dream had come true.

"What do you want?" he asked, in a quiet, high pitched voice.

The men with the gun moved forward with impunity. Three other men followed him. The gunman remained in the apartment and his servant to stand in the far corner. Covering them with the revolver, a machine gun playing about his head, he spoke. "You've been told once today that you'll have your share if you want on playing with firearms. But you were suddenly, and suddenly people don't get on well with my boss." He turned to the other men. "All right, boys, get to it."

The three of them flung themselves at the difficult apartment on the beach, sweeping it to the floor and trampling it underfoot. A door had opened from the electric furnace and revealed the glowing diamonds.

He took a mad sprint, with a wild cry, flag flapping at them, only to stop in the face of the creaked machine crashed in the back of his head. Percy, his great late cleaving and unrelenting, flung forward as Jones went down. The men with the machine gun, the heavy tank bed down with a sickening thud on the great's head. But it took a moment and his fingers flung forward on the quarry's neck.

For a few minutes the work of destruction continued. Nothing was spared even the powerful electric fan was smashed. Then, with a final satisfied glance at the two men lying unconscious on the floor they went up the stairs and out of the house.

They were the first to come again. He opened his eyes and stared stupidly at the debris that filled the floor. In the center of the basement it took him several minutes to locate the enormous figure of Nathaniel Jones. The chest clung to his feet and set to work to strike his member into unconsciousness. What does he matter for the weakest is weak.

He got up and looked partially around. His mind seemed blank to register the confusion that surrounded him. He turned first to his watch, a queer little device in his hand, and then to the floor. "They have not lost my little piece?"

The great clock has been vigorously, but he has clanked and his eyes glared with the light of hate.

The greatest said: "Yes, I know, you would go out and search the streets until you found them. You would because there were these great first of yours; you would put them back in their own case with physical violence. That is not my way."

He passed, his head sunk on his chest. When he looked up there was smoke coming on his face. "That is not my way," he repeated. His face changed. "If I follow you, I have the place—yes, I had a wonderful bag containing one hundred of our richest stones. You will take that bag and go out into the streets. You will give one of the stones to every poor man, woman or child you meet. Only when the bag is empty will you come back. You understand?"

Yes. But I see my of these men shall I dislike."

"You do not understand. Consider the stones as I have said. Perhaps many stones will see that these men are chosen. . . ."

The servant moved slowly up the stairs. Nathaniel Jones, the man who still laughing, remembered slowly and methodically to make a detailed list of all the men appointed to make the request.

Meanwhile, in a street near a factory door, . . . and the diamond market shrank.

* DIAMONDS MADE FOR DESTRUCTION

MEYER lived rough, rugged, and Meyer was satisfied. Even a lantern could be made to understand that to manufacture diamonds at Josephine and to sell

them at a profit was not necessarily profitable.

Then the diamond king's wife came to him, and he went on carrying all that they were very interested. Agents were reporting that they were being overwhelmed by the demand for the stones which had diamonds to sell. Prices were falling rapidly.

Meyer motivated his own confidential spy ring man to find out what was happening, and in due season they returned to report that a few hours previously a man had gone through the streets of the town carrying away some of the finest stones that ever came out of the ground. A huge fellow he was, with blood coming from a nasty cut in his skull. It was then that a police station Meyer once frequented learned for the first time in his history that diamonds were being sold.

His brother Jones had got to be removed. He'd been worried, he'd been beaten up, and Meyer had lost. A letter out of the diamond, a street incident, a few . . . anything to put a stop to his activities. He called together the four men he had employed earlier in the day, and Treasury men changed hands.

His instructions were brief: "Get Jones, then, that servant fellow of his is one, then slip down to the basement and do the

RADIO TRAIN ON TOUR

A TRAVELLING showman, which will demonstrate on the latest radio receivers produced by a gramophone company, has just set out on a 2,000-mile tour of the country.

It is taking exhibition sets of every receiver produced by the company as the dealer who are taken in by the great variety of sets and the variety of sets a novel and effective way of selling them.

Hidden in the roof are the wheels needed for demonstration purposes, and the train even has its own power station on board to provide the current for the electrical apparatus and its gramophones.

With the big snap out of the way, you need not fear interference. As quick as possible, and remember that if you're caught you can't rely on my help. Now get to it."

They got in it that night, when it was sufficiently late to be dark, but not late enough to make their entering outside the house in full view of the neighbors. They kept in the shadows as the huge bulk of the servant emerged from the door and moved up the stairs at some speed. They waited until he had passed the stairs before they spread the door with a delicate cry and hid inside.

Alcibiades down the corridor, into the back room, and descending the stairs to the basement. The diamond lighters and the intense heat indicated that the scientist had's moved my time in starting machine again. The leader moved his head restlessly round the room, and at the bottom of the staircase to find to see Jones carrying a pile of cubes into a veritable of machine room. He moved his member in free, and then the fire added with the accompanying machine.

The lastly surprised time that had been destroyed that morning emerged and plunged the basement into pitch darkness. Jones went into a room in a high bayed itself on the floor, and the bottom of the room was covered with lightning apparatus. The thing himself felt in the floor and right away, the whole a bundle of baskets smashed into the wall above him. He heard one of these about in a light, heard another one great. "Better get out, even that you must be added like a strong agent."

"But to get a light to make certain." The leader smiled, but before they could strike a match something thundered from the floor like a smashing siphon. They couldn't see it; it was dark; all they knew was that the servant had returned and was running away, determined to escape his marauder master. One of them returned in agony as his arm was twisted back and snapped on the shoulder, another was jerked up and flung to the concrete floor with a force that made his skull like an eggshell.

Then one of them managed to extract an electric torch from his pocket. He looked up the stairs and a beam of light shined into the darkness. Percy was absolutely bending the back of the leader across his knee, when the other gunman fired. It caught the servant in the shoulder and sent him sprawling across the room like a gigantic top. The gunman fired again, and a dull click from the hammer told him that his gun was empty.

The other, who had dropped to the floor as the attack released his hold, staggered to his feet and tried his revolver. Percy acted quickly. One huge fist smashed the crumpled of motion into the floor of his figure, then he had flung it straight into the face of the standing gunman. The spark went back with a swirl of smoke of agony, the victim retreating in way into an at it shrank shudderingly into his body. The noise of smashing feet in the corridor above recalled the sudden departure at the last of the raiders.

Of course the police were and asked a number of questions. All of the men were known to the police, and there appeared to be no reason to doubt the scientist's story. One of the detectives was particularly interested in how about Nathaniel's activities, but his official report to his superior contained less up to "well, but however. It is my opinion that, in his present state of mind, it would be difficult to have been outlived."

After the police, came Meyer. A serious and thoughtful Meyer who was playing his own card, and knew it. He was in the middle of a plan that would spend his and that Meyer hoped he had succeeded.

"How would you like a big laboratory with all the latest apparatus, wherever where you could make your diamonds to your heart's content, eh?" he insisted.

The scientist's eyes glared. "Perhaps later, when I have sold some of my diamonds," he said hesitantly.

"Listen to me," the diamond king followed him quickly, "you want to sell your diamonds, I'm prepared to buy them. I'll build you a factory where you can spread all your time making the diamonds. All you produce you will sell to me, and I'll pay you a standing price of £10,000 a year. You make the diamonds, and I'll—I'll dispose of them. How's that?"

"It's wonderful," breathed the scientist.

"If only I could make the diamonds—beautiful diamonds. You will pay, so the diamond price will rise."

"And with that amount of money you'll be able to give several girls all the money they need. Merit put in with a dry smile.

And so it was arranged, a contract between a homeless Jew and a big business man. Today the factory stands on the outskirts of a South African city. In the neighborhood Nathaniel Jones and his great assistant work night long on making perfect diamonds. The diamonds press from the laboratory to the packing department, and then to the packing section. There they are carefully packed in cases of wood, placed into seal cardboard boxes, and passed to the dispatch department.

And in the dispatch department—the department controlled by one of Meyer's most trusted servants—the parcels are carefully checked and placed on the carts that take them to the—Jewelry.

The Limit of Human Endurance

"One final demonstration and I will not detain you longer," he said. "We'll take an air trip to Brooklyn."

The plane departed them on the roof-top "drome" of the huge factory of Motor Electronics, Britain's biggest car manufacturer. Graham followed the instructor into the office of the works manager. Apparently Henschel had been responsible for an invention that had cut the costs of the drive in materials and labor charges by twenty per cent, and the manager was not forgetful. When the instructor mentioned that he was demonstrating a new apparatus to speed-up production, permission was immediately granted him to test the works. Graham's Press card pointed on immediately Open Spaces for himself.

Following the manager, they entered the vast assembly hall of the factory. A mile-long assembly line stretched into the distance. At one end the bare chassis frame moved into position on the endless belt and, as it moved slowly along the line, waiting workmen added to it until it emerged at the further end as a finished vehicle. At a rough estimate there were three hundred cars in various stages of construction on the assembly line.

Henschel was clanking busily to himself. He turned to the works manager. "You say your peak-pump is two hundred vehicles an hour, plus that. How often does your assembly line, including that figure?" He laughed again, and it was the same

each day of a month. "You don't know the limit of human endurance!" And upon the slither of the Ray Control shifted.

Henschel crunched over the instrument as he focused it along the assembly line. His take-like fingers slowly turned the knob at the outside. Graham and the manager stood motionless behind him. They had not long to wait.

The traffic jammed men being the million belt, working like automatons on the particular men that, suddenly moved into position opposite them, gradually quenched their pace. Graham's eyes were fastened on a workman a dozen yards away. His job was to slip the belt near side wheel and tyre on to the appropriate hub, match the hexagonal nuts from the trap handle cam, and tighten them on to the four bolts protruding from the frame drum and on down the wheel rim. He got a new wheel in position every forty-three seconds for eight hours on six days per week.

Graham realized that he was working faster. Faster and faster. Sweeping the wheel into position with a lightning flick of his arm, his fingers snatching at the nuts, his hands spinning as he screwed them tight. Working faster as that he had to phase a few seconds to wait for the next chassis to move into position opposite him.

"Increase the speed of the assembly belt ten seconds," Henschel granted, and the re-

porter abandoned at the students that was in his face. The works manager sighed.

New the workman when job consisted of fitting off-side rear wheels was working like a machine—a machine that was moving at peak-point and determined to fly from its bearings. There was no agonizing, fixed expression on his face, the veins standing out like blue cords. His motions of preparation, putting down his tool.

The fever of mass production had gripped him. Under the influence of the ray he wanted only to work, to work faster and faster. To beat the assembly belt, not merely to keep pace with the endless stream of chassis, the unrelenting advance of the belt, but to get ahead of them. And all down the line were twelve hundred men like him; working as they had never worked before.

"Increase another five seconds," Henschel said softly, an enigmatic note creeping into his voice.

"It's madness!" the manager started to expostulate. "They'll never stand it." Nevertheless he "placed down" in the power room.

It was like a scene from a nightmare; like a film suddenly speeded up. The men's actions were no so fast as to be grotesque. Individual movements were so fast that they were lost.

All along the line it was going on—faster and faster... with Henschel glaring down like a devil incarnate. A hundred yards up the line a man's knees sagged beneath him and he pitched to the floor, the men on either side never moved in their motion. Another fell, and another... like an soldier suddenly suppling over. Working in breaking pace, faster and faster until they collapsed. Others fell, some groaning as they swayed. Henschel looked on with gleaming eyes.

The works manager sprang at the "phone and shouted down to the power house to stop the assembly line.

The instructor turned to him: "You are satisfied that production can be increased. Under my plan you will be able to add a further fifteen seconds to every minute. No—no! After seconds—that was breaking patch. Say another twelve seconds..."

The works manager made grave choking noises in his throat. "You intend I don't know how you've done it? But I've not having my men killed just to add a few more thousand to the profits. Get out!"

Henschel went, glowering like a monster. Outside they stood on the edge of Astoria's Nine, waiting for an electrician to take them back to the Metropolitan. Graham spoke, trying to control his anger. "I'm telling the world everything tonight, Henschel. If that isn't enough to get you hounded out of the country I'll resign my job to-morrow."

The instructor smiled at him from him. He was smiling. "I shall control him—man's hatred. Party against party; nation against nation; good, wrong... Ray Control No. 1 shall dominate the world..."

He raised his arm like some pagan priest, and the instrument in the further case dropped and a smaller unit came on to the screen at Astoria's Nine. With a cry of surprise he stepped out to retrieve it. He was the park of a Metropolitan bound express automobile. Graham had an instant's glimpse of a speeded-up figure being flung fifty yards into the air to crash down behind the crash-site vehicle.

He saw how long killed instantly, for they found him lying crushed and broken amongst the scattered remnants of what might have been an automobile's leg corner.

Graham took an air taxi back to the Herald building. Hardly had he seated himself at his desk before the news editor was speaking to him on the inter-continental radio. "Get that Harvey Henschel story, Graham?"

The reporter hesitated: "Sorry, sir. He wouldn't say anything. I've heard he was killed this afternoon..."



Contributed by P. E. CLEATOR (President of the British Inter-Planetary Society)

"Scoops" in Berlin

IT THINKS that British readers will be interested to learn that, should they ever visit Berlin, they will always be able to find Scoops there. The library of the German Inter-Planetary Society contains, perhaps, the most complete collection of books and papers on rocketry and space travel in the world.

Exactly how up to date the German enthusiasts endeavor to keep their library you may judge from a request I have just received from Herr Willy Ley. He asks me to forward copies of Scoops regularly to him so that they may be added to the library. Needless to state, I shall be only too pleased to be at service in this way.

Another International Rocket Society!

TRULY it never rains but it pours. A short time ago I announced that Mr. O. Edward Pezdian, of the American Inter-Planetary Society, was organizing an international rocket society. And now, at the time of writing, I have received yet another set of proposals in this connection—the time for Scoops!

The organizer in this case is Herr Thomas Engel, author of "Mars und Raketen" (Mars and the Rocket), one of the latest books on rocketry.

As yet I have not had an opportunity of examining his proposals closely—his terms at first glance would seem to imply, and is written in German.

Actually, I have known for some months that it was in the course of preparation, for not only has Herr Engel mentioned at several times in his letters to me, but he

gave a wireless talk on the subject from Frankfurt station last February.

I hardly think, however, that two international societies will be formed. The work of the two would be quite in conflict. Doubtless, both proposals will eventually be brought before me.

A New Rocket Motor

I HAVE just received plans of a new type of rocket motor which has been designed by one of our engineers in London—Mr. J. G. Strong, B.Sc.

Unlike the conventional motor, where liquid fuel is pressure-fed into a combustion chamber and continuously burnt, the new motor is designed to operate on gaseous fuel which would be repeatedly detonated by means of sparking plugs. The suggested fuel is a mixture of hydrogen peroxide and air and consists of a pre-arranged vapour.

Theoretically, there is no objection to gaseous fuels, but it is significant that the German representatives have not agreed to them. I discussed the question with them some time ago. It seems that, in so far as rockets are concerned, the main objection concerns the fuel chambers. These would need to be very strong, and consequently heavy, to withstand the pressure of the compressed fuel.

In Mr. Strong's motor, however, no part of the fuel (the petrol) would be liquid until it entered the combustion chamber in the form of a fine spray or vapor, while air could be obtained from the atmosphere. This would, of course, limit the height to which the motor could ascend and yet operate, unless a supply of compressed air or oxygen were also carried.

Future experiments will doubtless decide whether the idea is feasible or not.

The Black Vultures

Terror From The Skies

Death From The Clouds

* ARCTIC CRASH

BULLETS from Derek Odham's blazing gun ripped Alya's coat from engine casing to cockpit, and as Derek roared up to star low over Alya's belated break, the pirate scout fell away into a spin.

Derek wheeled with more ease. There had already dropped from the trigger of his synchronized gun. For a couple of hours had looked back from Alya's rocket patrol tank and the machine was playing havoc, a blinding man.

There was little joy in Derek's heart as he watched the pirate sink in the water and turn over, to drift away a mass of half-sundered and submerged wreckage.

Alya was a black-hearted and murderous pirate, and the world would be the better for his passing.

Pressing on the rudder bar, Derek swung the scout back on to its westerly course. He was very low, and as he pulled back the stick in order to gain height his engine died away.

There was something as startlingly unexpected about the deathly silence which followed the sudden cutting out of the engine that Derek almost stalled the machine.

Recovering himself, however, he whipped forward the control stick and dropped the altitude to his gliding angle. A glance at his petrol gauge told him the worst. His tank was empty. It had already been quenched during the fight by a bullet from Alya's gun.

The scout had carried the machine far out from the sea, and there was no sign of the promised rescue at horizon. Ahead and to port stretched the cold and desolate wastes of the Arctic Ocean, nowhere save for a vast, drifting field of snow in the mid-air-suspended horizon.

Swinging the engineless scout towards it, Derek, weakened on a slight, fought with more persistence than had been the case in his fight with Alya and Kibel.

If he could reach the snowfield he would have a chance of life, for he might be sighted by some whaler before hunger and the bitter cold brought death.

It he failed to reach the snowfield, however, and came down on the ice sea, he would live just as long as his scout lasted, which would be no more than a few minutes at the most.

To attempt to swim from the sinking machine would be worse than hopeless, for in his sinking clothing he would soon freeze to death.

No, his only chance lay in reaching the snowfield, and surmounting every step of it will be possible, he sensed the great gliding way towards it.

He still had two thousand five hundred feet of altitude, and cautiously he eased back the control stick, falling the nose about to the stalling angle, and then getting a few more precious feet of distance.

Nearer and nearer approached the vast, gleaming plain of snow, but lower and lower towards the cold, grey air dropped the scout.

The steadily moving altimeter needle registered fifteen hundred feet—two thousand feet—five hundred feet—and still the edge of the snow horizon seemed an immeasurable distance away.

Derek's heart sank, but resolutely he pulled back the stick, his eyes fixed on the falling air cap towards which he was heading.

The scout lifted her nose under the pull of the engine. The radiator top loomed the horizon and rose awfully above it. The scout checked, quivered, and in the nick of time Derek pulled forward the control stick to forestall the spin into which she was on the verge of dropping.

She was three hundred feet above the sea before Derek again pulled her up off her gliding angle. The sea cap was closer, but still a seemingly hopeless distance away.

Now Derek nursed the scout away that intervening stretch of sea he scarcely knew. The whole thing was a ghastly juggling with death, and the scout dropped closer and closer to the grey and desolate sea until, with feet only to spare, she glided swiftly in over the first outcroppings of ice, struck a jagged ridge with her undercarriage wheels, and crashed over first into a stretch, deep drifts of snow.

Taken, Derek crashed out of the cockpit, and glancing his way out of the drift, stood shivering his arms and stamping his feet to restore the circulation to numb limbs and muscles.

Like hellish birds of prey, but using all the wonders of modern science and mechanics, they came swooping out of the dark to the scene of death below. Black Vultures peeping on reason after the notice of their lost brethren.

By George E. ROCHESTER

The first thing to be done now was to pull down the tail of the machine and cover the black wings and fuselage with snow. For there wasn't the slightest doubt that when Alya and Kibel failed to return to the base, other pirate machines would come in search of them.

And if these machines happened to pass over the snow field they would at once sight the conspicuous black scout which had crashed there.

And that was the last thing the young airman dreamed. A member of the British Aeronautical Research Society, he had been working with Professor Piger in Boston, on experiments with anti-gravity in rarified atmosphere, when the Black Vultures, the modern sky pirates, had swooped down on the town.

Deadly gun bombs had been dropped on to the sleeping town, and then fast black planes, operating from a great height, had brought the greatest down to the burning.

Professor Piger had been killed, and by dead in his bed, but Derek Odham, who had been working late in the laboratory, had managed to get a rush on to him.

On a sudden impulse, Derek had gone after the pirates, and when the black ships rose from the dead town he had been hanging from the undercarriage of one of them.

But the race atmosphere in which the desperate floated had consumed Derek, and his repeated consciousness to find himself in the hands of Zentner, Master of the Black Vultures.

After many strange and weirdly adventures he had been taken to the pirates base in the Arctic, and while the Vultures were searching their supply ship a chance of escape had presented itself.

He had captured a plane and got away, only to be captured by Alya and Kibel, two of the Vultures. In a ghastly aerial battle he had sent the two pirates to their death, but now that he had crashed there was danger from the pirates who would come out to seek their comrades.

Sailing his way, gasping, pistol, cartridges and compass, Derek ran to rock. The pilot took his hand, carrying steadily through his veins, and by the time the scout was covered with snow, Derek was tingling from head to foot.

Not was he any too soon, for sorrowfully had he completed the job when away to the north he loomed the distant dream of powerful sea eagles.

Whether the noise grew in volume, and as four distant specks in the sky resolved themselves into four low-flying scouts coming up at terrific speed, Derek slumped down into the snow drift beside his machine.

And he had reason to be thankful that he had done so, for as they approached the snow field, one at the scout detached itself from the formation, and edging to port, circled the snow field in an obvious search for some sign of a crash.

Finding nothing, the pilot replaced his compass and the four scouts thundered on to crash away in the north. Derek, knowing they would return, remained where he was, and within half an hour the scouts reappeared.

They had spread out into lines, and it was not until they had covered a hundred and disappeared away towards the north that Derek clambered from the drift.

He was told and sat, shivering with the bitter chill which was biting through his heavy skin. But he was still safe from Zentner's scouts, and so ready to take stock of his surroundings he clambered to the top of a nearby snow covered hill of ice.

It was a difficult and laborious enough climb, but after much slipping and spilling he reached the top and correctly scanned every part of the coast.

The snow field, as he had seen from the air, was about five miles in length and three miles wide. Nothing stirred, nothing broke the tense and brooding hush, and as Derek turned away to descend to his wrecked machine, he knew he was the only living thing in that vast world of ice and snow.

* OUT OF THE NIGHT

REMAINING the machine, Derek scamped over the snow, and ripping the fabric of wings and fuselage with his knife, soon had a fire going, feeding it with splintered wood he had and searched from the framework of the wreck.

Deliberately, however, he was sparing with his fuel, for he did not know how long it would burn in his tent. In other words, he did not know how long he would be able to sustain life on a diet which most, of necessity, would satisfy of melted snow.

He felt fairly certain that Zentner's scouts would not return again, for already the mark of Arctic dusk was showing the grey and lonely sea, and the only chance he had of life was to be picked up by some passing whaler which might see his signal fire.

Worst hour succeeded weary hour as he sat crouched over the blazing and crackling

From *Time* (1933)
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ROCKETING Into SPACE

This informative article outlines the progress that is being made in rocket-propelled ships and shows how very much nearer we are to the ultimate end-space travel.

By P. E. CLEATOR (President of the British Inter-Planetary Society)

The Rocket Motor

THE early experiments of the pioneers of interplanetary travel, who saw in the rocket a means of propelling a vessel through the vacuum of space, were little more than the ordinary rocket shots such as are seen at fireworks displays.

For the fuel was used, explosions were not understood, and, at best, the fuel was difficult to control. Finally, it became evident that the power available was quite inadequate for the purpose for which it was intended.

For these reasons, it became vitally necessary to discover some other and more suitable form of fuel. Hence, attention shifted to liquid propellants, which were proposed by Professor Hermann Oberth as long ago as the year 1903.

Dr. Goddard, the famous American rocket experimenter, shot his first liquid fuel rocket on July 19th, 1926. It measured one foot in length, was over two feet in diameter, and carried astronomical instruments.

The shot was a complete success. The rocket rose several hundred feet into the air, and continued to rise, shooting gently downwards by means of a parachute.

Meanwhile, many German experiments had also been being. Not all, however, turned out to be successful. Even today, there are a few who prefer—allegedly, I think—in using powder fuel.

After many experiments, Ing. Fritz Schickel, an Austrian engineer, on February 2nd, 1932, shot the first interplanetary rocket. This was rocket No. V. 7, and it carried 332 lb. of fuel. Rocket No. V. 8 was shot on the night of October 28th in the same year.

Continuing THE BLACK VULTURES

But as his gun clattered from his terrible hand, the remaining men were on him, bearing him down by their weight of sin. Faces, white with passion, marked him as he and clenched fists snatched savagely into his trousers and bloody trousers.

He struggled desperately, but to no end, and a sudden double-bumper hit him from a behind, sending him off a man, and the beast, then, again in a circle and brought Derek merciless oblivion in unconsciousness.

When next he came round he was in his cabin, heavily bruised. His head was aching. His shoulder felt as though it were being pushed by a red-hot iron, and his feet ached with pain.

With an effort he got a grip on himself, fighting the awful nausea, and as he recovered to take stock of his surroundings he

A Record Flight

IT was in the early part of 1931, when, that Ing. Karl Focke, in a test carried out near Berlin, successfully shot a powder-propelled rocket, complete with a variety of measuring instruments, to a height of 3,500 feet.

A little later in the same year (April 15th) Ing. Roschold Tilling succeeded in sending a rocket to a height of over 5,000 feet. Ing. Tilling also used powder fuel, but, unfortunately, he met his death last October by the sudden detonation of a quantity of powder fuel.

At this time, liquid fuel could produce results nothing like this. But the German Inter-Planetary Society, whose members had agreed among themselves not to use powder fuel, were quietly and patiently experimenting with the new fuels.

At first, in order to save expense, they constructed a series of rocket motors known as *Mirka*-motors. These small

models did not ascend, but were fired in a testing stand where, by means of measuring instruments, their power, or "thrust," was noted.

As a result of these important experiments, the *Republik Rocket* of their kind, an engine of the Society, was produced. The first of these was shot in May, 1932, and it reached a height of about 2,000 feet. The fuel used was liquid oxygen and petrol.

Improvements in design quickly followed, and soon twenty-five miles up were in possible.

Rocket ships, therefore, when they do come, will most probably be propelled by liquid fuel, or some new development of liquid fuel. Their arrival is merely a question of time. The small instrument-carrying rockets of today will gradually grow larger and larger. They will ascend higher and higher. Then will follow the passenger-carrying stratosphere ships, and finally we may see the launch of the first space ship as shown by our artist's vivid impression on this week's cover.



A cross-section of a space ship designed by the famous Russian, Professor Zolotarevsky. (1) Food store; (2) cabin for crew; (3) fresh water tanks; (4) accumulator room; (5) helmet-whipping-top; (6) pump room; (7) hydrogen tanks; (8) rocket "base"; (9) periscope for pilot; (10) pilot seat in front of switchboard; (11) periscope; (12) oxygen tanks.

see the second male leaning against the door watching him.

"So you're a real record, Mister Derek (Miles)" greeted the man. "You, we know all about you now. Sparks has been in our communication with the base again. What I can't understand is why you didn't let him instead of dying him, you murdering wretch!"

Derek made no response and the harsh voice went on.

"But I suppose you wanted to get at that wretched rat without making any noise, eh? And you succeeded. Well, what message did you send out and who to? Come on, answer me, damn you!"

Struggling forward he looked Derek savagely in the face.

"Oh, so that's the way of it, is it?" he snarled. "Not going to talk? Well, it doesn't matter a damn to me whether you talk or not. Zoraster'll make you talk, I'll bet.

He's looking forward to it and to seeing you again."

"I don't doubt it!" snarled Derek. "No, he knows you're killed. Vozit, the shipper," perched the other, "and he means to thank you much have killed Kolod and Alpa. He says you're to give you his compliments and tell you that he will be delighted to participate in fall when you reach the base. And if you know Zoraster like we do, you'll maybe be able to guess what that means!"

Yes, Derek knew what it meant all right. Zoraster was a very devil from hell, and Derek had no doubts that Zoraster would permit him to die facing a firing party.

No, some slower and infinitely more painful death than that would be reserved for him, and this time there would be no escape. Zoraster would not permit him to slip through his fingers a second time.

This amazing story will be continued in next week's issue of *SCOOPS*.

DEATH

A Man with a hatred for graft and greed, possessing a destructive force more powerful than explosives, more deadly than a death ray. A powerful story told in the swift, inevitable style of Captain Willis, a brilliant new writer of Future Science Fiction

By Captain John
WILLIS

* THE GOVERNOR OF NEW YORK DIES

THE Master of the Destroyer, trained only to the further side of the moon and bent over the control panel of the great wireless transmission of such power that it could if necessary swamp out all other stations using the ether.

He turned the dial slowly with his tapering fingers. The apparatus was so sensitive that in conjunction with the rotating aerial—the truncated cones could be directed on any individual set. He moved it now on a state on the third floor of a greenhouse on Brooklyn Heights. A red light worked sporadically, and the white-haired man knew that he had located his objective.

Then he drew a microphone toward him and spoke quietly and dispassionately. "A message for H. H. Hoffman. He glanced into the special telescope and saw the fat little man in his Brooklyn apartment suddenly jerk forward in his chair.

He continued, in these words dead tones:—Hoffman, the Governor of New York State—you are misappropriating public funds; you are the king of grafters. You have too much a leading account . . . and you are sick. Hoffman, tomorrow you will give a donation of one million dollars to the relief fund for the city's unemployed."

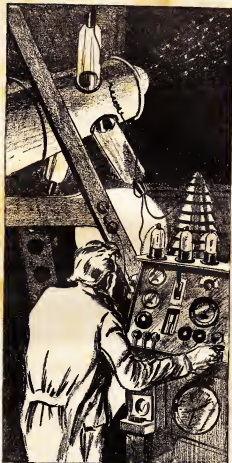
The white-haired man looked over a switch and noted away from the microphone. For a moment he stood staring into the telescope, watching Hoffman sitting paralyzed in his chair. Then he flung over another switch and the program faded.

Hoffman had got to pay—or die. They would all have to.

For a moment the Master of the Destroyer gazed up at the turning machine above with a look of reverence. Then he turned and went down the steps in the front, along the underground tunnel, and up into the farmhouse. As dusk came down over the woods a shepherd saw the lights come on at Dead Elm Farm. Then, hearing his few scattered sheep stray, he hurried across to the car that stood behind a rise in the ground, and drove off.

A queer action on the part of a Yorkshire shepherd? Yes, but queer things were happening in the world; a queer old man had come to live at Dead Elm Farm. The electric luxury home of the wealthy oil magnate, Henry Pinner, had been wiped from the earth—blasted out so though it had never been there. Once, the lord of a gigantic, ancient ring, had been warned—told one of his explosives sheds blasted completely out of existence. Rottland Yard had got excited, and Chief Detective-Inspector Greenleaf, of the Special Department, had put young Detective-Sergeant William Gaudin on to the job. But Billy had also had his warning from Death's spokesman. Yes, queer things were happening.

The old man was early in the barn next



The roof of the barn slid silently open and the great barrel of the Destroyer swung slowly round. The Master's hand stabbed down and a ribbon of bright flame blazed from the Destroyer.

BROADCASTS

relying. For several hours he examined an unbroken file, glancing information from a hundred different sources and noting it in the records. Carefully he compiled in neat handwriting the death warrant of a hundred affidavits.

At about one o'clock he turned over to the control panel of the big transmitter, turned dials and switches with deft fingers. Next over the telephone and Hall came news to view: a white-haired man who had obviously slept badly. The corrupt governor of New York State was shaking himself before a mirror.

The white-haired man saw the sudden trickle of blood from Hoffman's chin as he had dead voice spoke into the microphone. Now Hoffman's voice roared in sudden terror, struggling to keep a grip on his jangled nerves:

"I don't forget my warning, Hoffman. Not quickly—no—Heads Broadheads!"

He saw the governor's face go white under the patches of labor, then he saw his lips moving at a torrent of speech. The white-haired man watched his lips, and every word came as clearly as if he could hear them: "You're trying to bluff me—whether you are. You don't know whether I know what you're doing or not! What's your price, eh?"

And those same dead times breaking into Hoffman's consciousness. A white-haired man in the background, and your immediate recognition.

Hoffman covered at the reply came. Then, studying himself—O.K. You won't show yourself, eh? Right, I'll have you run out of the State before the day's out. You ain't the first guy that's tried to bluff me, are you?—I'll see you in court. You're coming on good."

The white-haired man didn't even cough. He merely looked up at the Dictaphone that trembled above him. He switched off the radio transmitter and concentrated on the telephone, turning the tracing dials as Hoffman moved from room to room.

He rose then, with his breakfast now a man-eaten help him as with his coat and faced him by his last and glance. Now his gaze out of the house, back into his apartment, and then passed him up again as he entered the garage at the side of the house. Now him with the checkered coat and clock in the wall. The white-haired man's fingers slowly moved the dials as the car shot out of the drive and into the main road, up Brooklyn Avenue into One-Forty-Fifth Street. At the intersection where East Twenty-Third Street cuts across One-Forty-Fifth Street Hoffman's car was brought to a screech on a traffic light.

The white-haired man's left hand reached out to the definite directional apparatus of the Dictaphone. The end of the hand slid slowly open, and the great burst of the Dictaphone swung slowly round. The man watched his gaze from the telephone screen for a moment and concentrated on the news as he and heard at the side of the Dictaphone. Then a tiny black X appeared on the screen of the Dictaphone, and as his fingers moved on the control of the Dictaphone the X moved slowly up One-Forty-Fifth Street until it came to rest at the other side of the intersection.

Now the traffic started, now Hoffman's car began forward across the intersection and—just as its radiator touched the X on the screen—the left hand snatched dead and a column of light blue stalked from the horn of the Dictaphone and walked over the horizon.

It was done in a split second. The white-haired man, gazing with apprehension due into the screen, suddenly stretched off the Dictaphone and moved slowly across to the window.

And ran past the intersection in One-Forty-Fifth Street the crowds gathered. The shrill scream of a police siren came about the thunder of traffic.

A hysterical straggler was led into a draggish looking—'I saw it all! The auto came across the intersection. Then there was a crash, only a man's muffled body rising along the road. Rolling over and over until it dropped under that approaching truck.

And the truck driver, grudgingly accepting a proffered cigarette. "Then he goes back jumped from one of these buildings. Didn't stop off the side-walk I want. Saw him rolling in front of my wheels, and couldn't do a thing."

And he turned away as the bodies and twisted body was lifted out from beneath the sidewalk and covered with a newspaper sheet.

And even as the first newspaper reporter was placing his story in the news room, a white-haired man in a legation corner of England was writing on a sheet headed "J. B. Hoffman," the significant words: "Dead in a street accident."

★ NUMBER SEVENTEEN FAILS

It was a week later that the hapless J. B. Hoffman was found in the night, his head of Dead End Road decided to confirm his suspicions of the damned barn.

Not a day had passed without him sending a report to that unknown individual who employed him. Report after report addressed to the management of the Barn and marked "To Be Called For."

Every day he watched that black group of buildings, not daring to do so, since his employees was suddenly so anxious to know all that happened there. And now he had been ordered to go round-side to check out alone.

These were the antechambers he had received from the man above—Barn Jones, the head of the great movements combine that was threatening the peace of the world. The Man who had already named Barn, and Barn—with the aid of the reports from the shepherd, known to him as No. 17—was determined to strike first.

Anyhow, there was only the old man, Number Seventeen, around himself. Nothing much to fear. He felt the grip of the handle in the pocket of his coat. Just went for the old man to go out for his daily walk, then came in and out. And all there was to see, before a detailed report. That was all, better than sitting staring at the place all day.

From behind a low door he watched the last figure of the white-haired old man come out of the door of the farmhouse and move slowly off on those dead legs of his. He wouldn't be back for an hour. . . . and sixty seconds would be more than enough to find out what was inside.

He watched the old man until he was out of sight behind a drop in the ground, then slowly he unfastened his back door to the barn, with ease that surprised the farm. Could he be so careful, better to have a contracting enemy, just in case. . . .

Heaved the door through a gap in the fence and watched them as they wandered close to the farmhouse. Then darted across to the shelter of the porch and started to

insert the machine gun 1941 and died and he felt the back rest. Certainly he edged upon the door, saw that he was in the door—dug kitchen and darted inside, closing the door behind him.

The machine gun was the same as any other farm-house kitchen—and back door and plastered walls. A white-washed tile with a striped on it stood against the old Number Seventeen pushed through the door at the other end and entered the living room. He stepped at carefully, looking behind the low picture, testing the doors. . . . and trying the trap. He stepped at the entrance to the trap door was revealed, and penetrated himself a quiet smile of triumph as it opened to his touch.

From the pockets of his coat he withdrew an electric flashlight and the switch. He played the beam of light down into the darkness, and—seeing the electric glow—smashed until he found the switch. Then, with his gun held in readiness, he made his way down and along the tunnel.

He reached the stone steps that descended at the far end, clanked cautiously, and raised the trap as much as a time. Offended the lanes of the apparatus, lifted the flap and emerged into the barn. His eyes glanced with suppressed excitement as they fastened on the glowing steel and lathwork of the Dictaphone. Saw the great control panel of the transmitter and receiver; heard the low voice of dynamo and ink-line. Realized that he was in possession of the secret for which the man above would give dearly.

He made a few hasty notes in a pocket book, glanced at his watch, and realized that he'd got to get away. With a last glance at the Dictaphone, Number Seventeen went to fill the trap door. Jinked at the trap door. . . . and reeled in a spasm of agony as ten hundred volts pulsed through his frame.

For a moment he covered back in sudden terror, then he rose a thick red-hot mat and dragged it over to the trap. Standing on this in jinked again at the ring but although he felt that he was made to fit the trap. He looked around wildly, searching for some means of escape. No door, no window, no skylight. Just four walls and the roof. . . . and the floor that was closed to him.

Number Seventeen struggled to still his jangling nerves. He'd been in tighter places before—much tighter. What had he got to fear? Nothing—only a white-haired man that was waiting. He'd wait for him to arrive, about him as he would the trap, slowly to watch at it before it could drop back to place as the old man emerged into the tunnel below. That was the idea—just wait.

He watched the minute hand of the twenty-four-hour clock on the wall across slowly round the dial. Wanted a quarter of an hour, twenty minutes, twenty-five. . . . and from time to time he saw the trap door. . . . and the Dictaphone behind the Dictaphone, then—saw the trap door as he came—discharged a volley of bullets from his revolver into the aperture.

He saw the trap dropping back and high, it clunked at the edge and held it. Stupid to pull it open, and worried about in place as a first step. "Spoke! Don't move!"

The trap dropped from his nervous hand and fell slowly into place. He turned slowly, and saw the white-haired man stand by at the farther end of the room, a blue automatic held in a steady fist. The white-haired man with unassuming face, but standing on fine legs and with a body that spoke of strength.

Number Seventeen fought to keep a grip on his nerves. He turned a stride to his left and up. "Keep steady, Number, Come in here—come in here!"

"You are lying. Number's work and a revolver aren't in keeping." He passed a moment, then he asked in those same dead tones: "Who sent you?"

Number's eyes tried to bluff it out, until he

The Naked Man From the Skies

was compelled to feign his title of alchemist. "No body sees me; I heard quacks were going to here. I reckoned I'd have a look now."

"Who is he?" The man asked and you. "Who is he, eh?"

Number Seventeen licked at his lip. "I don't know—honestly."

"And for once he spoke the truth."

"To whom do you send your reports?"

The spy remained silent.

"I would ask you not to compel me to make an oath," the white-haired man said in his hoarse tones.

"To—in a vernacular of the Strand. To be called for."

The Master of the Destroyer noted the address, keeping a watchful eye on the other man.

"What are you going to do with me?"

"What are you going to do with me, eh?"

Number Seventeen remained in quiet.

"You can't keep me here—can't—can't tell me? If you kill me, you'll never—"

The spy's lips snapped closed.

"Yes, I'll answer!" the white-haired man asked evenly.

Number Seventeen stood in trembling silence. "Then—" "I nearly said too much—"

"I'll answer!" the Master of the Destroyer repeated automatically. Then after a pause: "In your personal interests I would advise you to continue that sentence you brought to such an abrupt conclusion. I have a premonition that it would interest me."

The spy jerked his motion; forgot even his own danger in a gust of sudden anger.

"Yes, I'll speak it. If you kill me, you'll never live to shut me in. The man there—the man I work for—is going to wipe you out—"

and all his apparatus of years. Get that?"

He's going to wipe you out; he's coming a 'plane to bomb you and your laboratory in Bloomsbury. In less than an hour."

"So soon as that?" the Master remarked, almost with interest.

Number Seventeen delivered the key words of the old man's message: "That's what I was here for, and. To have a look round whilst you were away—to make sure that you were keeping the right place. If it wasn't I was to signal—and now I won't signal—and the red 'plane is on the way."

"A red flying machine?" the white-haired man remained again.

As his voice died both of them became conscious of a sound above in the low murmur of the electrical generators. The sound of an approaching flying machine. The Master eyed the other curiously. And Number Seventeen, musing that gaze, suddenly lost his last vestige of nerve.

"He's coming now—coming to blow this place to the sky. I've got to get out—got to get out!"

As the drone of the aero-engine grew louder the white-haired man's expression never altered. He glanced from the spy to the Destroyer, and back to the spy again. Then: "I'm going to let you free. If you come back again I shall kill you. I intended to kill you, but now I have not time. No man shall witness Death's Broadcast. . . and live. Go."

Wild-eyed, Number Seventeen flung him self down the stone steps. Raced along the tunnel and up at the other end.

As he flung himself out of the front door door and stood rigidly out on to the moon he was conscious of the slender of the aero-engine above him. He flung a fierce attack glance behind him. . . and passed.

The machine above carried the red, white and blue wings of the R.A.F. and, as it passed overhead and veered into the distance, Number Seventeen knew that it was not the plane sent by the man above. To each they happened to men and their lives.

The Master was thinking much the same thing as he kept the machine in position as

the screen of the television. He had let the spy go on a false alarm. . . that was a pity. But still there was this other matter—the red 'plane—that he had spoken of. That would be flying overhead every minute. He'd got to locate it, dangerous to let it approach too close.

He bent over the television, turned the dial of the sensitive directional apparatus . . . methodically searching the sky at every point of the compass. He saw a squadron of biplanes rise from the R.A.F. training school—a bunch of six—flew in a loose circle, and then broke away, now several separate machines at other points. But it was only twenty minutes later that he picked up the red machine winging its way over

Stoney towards London. Its wings and fuselage were marked of other Air Force symbols or registration letters—a machine that couldn't be traced—probably flown from the Continent. Obviously, the man above was taking no risks.

He switched it over to Croydon, and then he turned to the Destroyer. Carefully those sensitive fingers played on the keys of the control panel. A faint gleam—almost of surprise—appeared in the Master's eyes.

With his flowing white hair, his almost perfect expression, he might have been mistaken for an angel; but in his act it was

rather the red machine was passing over central London when it converted the very room showing on the television. People in the streets passed to look up at the machine as people do. They saw it for what it was—a red aeroplane flying high above the busy streets. Then it suddenly vanished from view—as if it had been swallowed in the transparency of a cloud. Just vanished. . .

and the people in the streets turned back to their business and the shop windows.

It was over half a minute later that a naked body fell with terrific force to the pavement of Pearlyville Green. Somebody screamed as a man's body, with out-flying limbs, struck the coping of one of the buildings and bounced at right angles of a shower of bricks. Crashed to the pavement with a bang.

A Duffell's Messenger stopped dead in his tracks, snatched a little and fell in a heap. Somebody's voice screamed. A policeman ran forward, hesitated a moment beside the flattened man of bleeding flesh. . . then hastily flung his cap over R. His whistle whistled above the roar of the traffic. The crowd began to gather, staring in matched fascination at the extraordinary sight.

A police van swung to a standard and the pulped flesh that had been a man was lifted into the interior and borne away.

The red machine was forgotten, nobody marked that it did not respond from the cloud that had hidden it. Only the Master, sitting at the control box of the Destroyer, had that he who broadcast the Ministry of Death was not expect recognition. And the man there was left to bite his nails in anger, to look at the record of Number Seventeen's . . . and track.

The body of a middle-aged man, drenched in a shepherd's smock, was found lying in a roadside ditch in the early hours of the following morning. There was room by which it could be identified. Just dead—with a man like drifted through his temple . . . that through the head at close range. Karl Bear had no room in his organization for men who failed.

Billy Castleford grinned into the mirror as he stared. To find a man that might be anywhere, a man who nobody knew, a devil incarnate as he had revealed a machine that would swallow death? It was certainly the Big Game, but it was going to be an even larger job.

It was what he was leaving his life that the dead man that had addressed him in the previous evening suddenly spoke quietly from the portable wireless set in his room.

"You are wasting your time in trying to find me. You will never find me. I do not wish to have to kill you. . ."

The young detective, staring with gaping mouth at the receiver, suddenly sat up. "You killed Randolph Parker, you killed that poor devil who fell in Pearlyville Green. You've killed others. . . and in that at least you're going to hang. . ."

Castleford stopped abruptly as the full sense of his stupidity came to him. This thing was getting on his nerves—which a fact he must look about at a wicket set.

But apparently the Master had heard him. The detective did not know that the mystery man—standing into the view before a couple of hundred miles away—had read the movement of his lips. All he knew was that the dead man was answering him.

"Yes, I killed Parker. Becker had been systematically robbing the railways who trusted him. But it is not of that that I wish to talk to you. I have told you that you are wasting time—courting death—in your efforts to apprehend me. The world will not have the best of me until my work is done."

"Your work—what is your work?"

Castleford asked anxiously.

"It does not matter. At the moment I am interested in your work. You must not continue your investigations into my activities. There is more important work for you to do. I have just seen a shooting woman have her last half-crown returned to her by a grocer. That half-crown was accidental, shot at her by a snail-bait cock. Yet hold a note from where you are now standing a gang of criminals are concluding the thousandth consecutive crime of the day. The address is the top floor of 95, Chancery-lane, London."

That is poor work."

And the voice from the wireless set was silent.

For a moment Castleford stood staring, for the room to continue. He asked a question, and received only silence. He passed, trying to shake his head. Then he hastily flung his dressing gown and rushed to a taxi to the Yard. He immediately went to the room of the chief of the C.I.D.

"Well, young fellow—what?" Superintendent Hornsby greeted him, "what can I do for you?"

"I want a dozen picked men," the young man said hesitantly, "and I want to go with them. The last time I've had information—"

—of a gang of assassins that are operating in Soho. I'm not sure that I can rely on the information; therefore I want to go along with the men. . . and if nothing comes of it I shall be glad if you won't shoot at a friend."

Hornsby hesitated, then: "O.K. Castleford. But I don't know what the Yard is coming to when young men from the Special Branch come in and try to run the Criminal Investigation Department. The men told me that the A.E. will give me necessary instructions. When do you want them?"

"Right now. They'd better have guns, and we'll have a lorry. I'll be down on the yard in ten minutes. Thanks, Chief."

And he hurried out to make his own preparations.

A queue of an hour later, a heavy lorry with two people came that effectively could do violence might have been seen wandering down Whitehall to Trafalgar Square. It moved up Charing Cross Road and turned down into the lane of side streets on the left until it came to a back lane before Chancery Street.

★ THE MASTER GIVES A HINT

DETECTIVE SERGEANT CASTLE (Duffell's Special Dept., C.I.D.)—Slightly taken aback and concerned in dress. The memory of that interview with his Chief—Detective Inspector Greenway—yesterday afternoon flooded back to his memory. Greenway had given him the Big Game—the job of locating the mystery broadcaster of death.

With a street map spread on his knees, Catbelle had already given his entire room. Ten of the plain-clad men were in the room, the building, which was a two-story apartment and two others were in a company room into the building. They waited until the room was clear and then they slipped out and moved into position.

Billy controlled the short flight of steps that led to the front door of the first floor. Apparently part of the plan was to let off into the hall, and the men in business suits waited. He found the door open and, as the three others followed him up the stairs to the top floor, another of the plain-clad men took up his position by the door.

But the others had left nothing to chance. Even as the plain-clad men had passed from the lobby as it came to a halt in the next street, a down-at-the-elbow had also been from an alley way and when out of sight ran steadily to the back entrance of 261, Channing Street. He burst into a room on the top floor with "This way."

There were four others in the room, all looking the narrow eyes and compressed lips of the industrial lawbreaker. And on them those two words of the look and produced as natural results as the "Opera House" of All India.

Almost one half of the room consisted of a bench cluttered with machines containing motion metal, a stamping machine, and all the odds and ends that go to make up the professional corner of a lawbreaker.

At the door at last burst in on them, one of the men jumped up a chair and jerked on the floor as the electric light that hung from the ceiling. The large bench upended; for a moment there was a clatter of rattling wheels and creaks. Then the under-side of the bench had swung in back with the wallboards. No part of the Middle Ages could have been more outrageously constructed.

Then it was that when Billy Catbelle looked surreptitiously on the door of that top floor room and swung open the door. "Waiting for a?" "Come in," he said. A rapidly furnished room in which four men grouped round a table were not only playing cards. The young detective, who kept the room in a single glance. And the fact remained... just four men playing an innocent game of cards. They weren't even gambling—at least there was no money on the table.

"What's going on in here?" he asked sharply, advancing into the room.

"A little law is recognized as 'silver'." "Silver?" "Just playing cards." He glanced over his shoulder at the door, and what he hoped to be a single moment of confusion caught eye and face.

"How's the evening going, 'Silver'?" Catbelle asked suddenly.

The little Jew's face registered serious change to his feelings. "You don't think I would do that, M. Sir Catbelle?" he asked placidly. "For months—ever since I came out—I go straight... then the cops break into a gentleman's room as he is returning a few friends and take up the post." Silver's knees looked as if he was on the verge of tears.

"But?" was Billy's only comment. He turned to the room behind him. "Come on in for a few minutes, boys—Silver has evidently forgotten his mission. Just have a look around and see if there is anything about the furnishings that arouses your interest." He turned to the crowd. "Get away from that card table and stand over there." The crowd had obeyed.

The detective and his men searched every inch of that room. They tapped the board walls, but the hidden room was great against that. They examined the floor, even using for a delicate splash of metal. But "Silver" had taken no chances.

After a quarter of an hour of it Billy was prepared to confess himself beaten. He had



The shepherd turned and saw the white-haired man standing at the other side of the room, a blue automatic held in a steady fist.

dearly glanced across at the clock standing motionless against the farther wall. Then he said: "Just playing cards." He turned to the door and saw a faint glimmer of the doorway of a building detective.

Inwardly, Catbelle was looking. But enough had to be able to trace the mystery man who operated the Detective... but to allow him to make a deliberate bid of a young young Yank was. Perhaps there was something behind it all... Perhaps the Master had been here on this floor's ground for a purpose. Perhaps even now Death was knocking again.

He'd better get back to the Yard.

He swung round on the plain clothes man. "All right—we'll get along."

They were making for the door when the Master struck. Without warning, the wall opposite which the four circles were standing suddenly vanished... and out of the gap a row of counterfeited coins, stamped machine, crumpled tumbled to the floor with a crash.

Silver's mouth was sagging open. Billy's jaw set firm, and even a revolver was gripped in his hand. He looked suspiciously at Silver, and Silver's red complexion had vanished like the wall. "O.K., boys—off the benches on them, and one of you run down below and get the key to the door."

He went out into the corridor and spoke distinctly. "Thanks—but it won't make any

difference." There was nobody else in the room, he spoke to the empty air. But the Master, seated in the control room at Dead End Point, heard.

★ A CONSTABLE IS INQUISITIVE

POLICE CONSTABLE G-027 was on duty when he recognized the sudden opportunity for promotion. The opportunity took the form of a sudden flash of lightning that seemed to split the sky in two. He might have called it lightning and left it at that... but for several reasons.

This flash was a quite blue ordinary light; it was faded without the index. And, anyway, it wasn't the right time of year. More than that, all the lightning that P.C. G-027 had ever seen had gone from horizon to horizon, or from behind one cloud to another. But he'd never seen a flash strike up from the middle of a dark room... until now.

But what was of greater importance—he had read the confidential note that had been circulated to all stations and a copy of which the Sergeant had passed round before he went on duty five hours before. It had come from the Special Branch at Scotland Yard and had been endorsed by one William St. John Catbelle.

P.C. G-027 had thought it a bit "dilly"

at the station—a cert instruction to notify his superior where immediately in the event of his seeing any suspicious flash. It was so positive that each time and location should be given.

The policeman descended from his bicycle and, in the light of his oil-lamp, carefully noted in his pocket-book the necessary data. Then P.C. 4,027—in an access of half-made credence.

He went to surround his machine, and loomed. It was over three miles back to the station. By the time he reported it might be too late. He propped his machine against the low stone wall and, flashing his lamp before him, he started off at a rapid pace across the moor. And all the time he kept his eyes focused on that patch of blackness from which the flash had come.

As he drew closer to his objective he noticed that he was approaching Dead Elm Farm. He remembered now that the place had been empty for some time, but recently he'd heard told of a strange old man coming to live there. It sounded queer...

He tripped over a large rock and again his flash-lamp pierced the darkness. And the Master, breathing deep of the night as at the door of the farmhouse, saw it. He darted back into the kitchen, raised the flap to the floor and hurried along the masonry gallery toward that connected the house with the barn. He came up to the rusted room of the Destroyer.

Fearfully he turned the dial of the control panel, until another brief flash from the policeman's lamp glowed momentarily in the view finder. For a second he paused—wondering whether perhaps the available use on some innocent addition. P.C. 4,027 never knew how close he had been to being left naked and frozen by the vengeance of the Destroyer.

Then the Master hesitated. Surely he could attract a country policeman! At the beam of the lamp drew steadily closer the Master darted across to a switch on the farther wall. He snatched it down and the whole room sank bodily into the ground. The Master had discovered such a vulnerability when he had built the Destroyer. Its interior—the old barn—walls, floor and roof—were built as a complete unit. This unit was mounted on a hydraulic ramp, the power for which was obtained from what was originally the power-plant for the electric lighting of the farm. The principle was much the same as the hydraulic pump used in modern garages for raising motor-cars. Naturally, the ramp was always raised, but a pressure on the control lever was sufficient to cause the complete room housing the Destroyer to sink down. The top of the ceiling became the keyhole door of the old barn.

No sooner had the control room sunk into position than the Master hurried back along the tunnel and up into the farmhouse. He was seated at the living-room reading

beastly Dodge when P.C. 4,027 "knocked on the door. A change came over the Master. The agony that had dominated his recent movements vanished. When he crossed the room to unlock the policeman he was an infirm old man. His head lay against almost lamppost of supporting his frail body.

He lifted the latch, and the policeman greeted "Good evening, sir."

The Master motioned him to enter. The constable had been uncertain of what he would find at Dead Elm Farm, but he certainly did not expect to find a delirious old fellow who was slightly deaf and appeared to spend his time in reading Dickens.

Now, what was I do for you?" asked the Master smiling benignly, and repeating his head to his ear the better to catch his visitor's reply.

The policeman hesitated; couldn't he find the flash that he'd come across the moor looking for lightning. He struggled to adopt a neighborly attitude. "I thought I'd put you in on you, sir—seeing as I'd heard you was a newcomer in these parts. But honestly on your own old legs, sort of thought if my duty just to look you up to see how everything was all right. I remember down at Bunterville where I was a youngster in the Force there was an old chap—a bit of a hermit like—who lived on his own with the nearest neighbor a mile away. Nobody ever went to see him, until I thought I'd look him up one evening."

And he was pleased to see that the Master asked, suppressing with difficulty the desire to smile at this particular constable. "Don't say that he was," the policeman said sympathetically. "You see, he was still and stark... he'd have died a fortnight before, but I thought I'd just look you up, sir."

"Thank you—thank you," the Master said humbly. "But I'm as the best of health, though my rheumatism have been cruel this last week or two..."

The policeman got to his feet, caring himself for being such a fool as to come out here. "Well, I reckon I'd be getting along," he said slowly, making for the door.

"Would you like to see one of 'em?" the Master asked impulsively. "It's dark, of course, but I've had an electric light placed installed. I'm sure you would find it interesting. I was told when I bought this place that some of the old beams used to be three hundred years old... and I expect they'll still be standing when you and I have gone."

He laughed softly. The Master showed him over the farm; showed him the living-rooms and bedrooms of the farmhouse. Took him out of the front door and round to the back the policeman didn't even bother to go inside as the Master wanted eloquent on the old oak beams. The policeman was compelled to be almost rude in order to tear himself away from this talk.

His old fool. "Well, I've got to be going... maybe I'll look in on you another time and write a 'good night'." He strode wearily back across the moor.

He reached his bicycle and was about to mount when, with an emphatic movement, he extracted his pocket-book and tore out the page on which he had noted the details of the lightning flash. He crumpled it in his hand and threw it into the ditch. "Oh! but!" he muttered vaguely, and resumed his machine.

And back to the control room at Dead Elm Farm, the Master was staring into the viewfinder. He was watching Billy Cumblish peering the carpet of his room struggling to find some way of locating the Destroyer. The Master watched him in silence and smiled slightly when the young detective abruptly stopped his peering at the dead wire inside from the lookpoker. "No, my young friend... you will never catch me!"

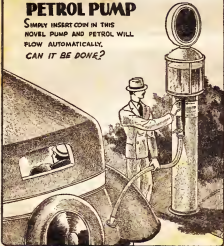
Now, staggering adventures in next week's long and powerful story in this amazing series.

CAN IT BE DONE?

POPULAR WEEKLY
FEATURE

SLOT MACHINE PETROL PUMP

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NOVEL PUMP AND PETROL WILL
FLOW AUTOMATICALLY.
CAN IT BE DONE?**



Here is an idea that should be simple in operation. It only remains now for some enterprising company to set up the pumps and arrange tanks. We offer them the idea free of charge.

The World Awakens
from the Dead when
the Earth clears—

Amazing Adventures
with the Famous Old
Scientist, Professor
Challenger

The POISON Belt

* THE GREAT AWAKENING

AND now I come to the end of this extraordinary incident, so extraordinary in its importance, not only in our own small, individual lives, but in the general history of the human race.

As I said when I began my narrative, when this history comes to be written this occurrence will surely stand out among all other events as a moment having among its results. Our generation has been reserved for a very special fate, none is less bound to experience so wonderful a thing. How long this event may last—how long mankind may preserve its health and resources when this great shock has taught it not only to shiver by the labor.

I think it is safe to say that things can never be quite the same again. Never was one realize how powerful and ignorant age is, and how one is upheld by an unseen hand, and how no nation that hand has seemed to move and to crush. Death has been forced out upon us. We know that at any moment it may happen. That great power shadows our lives, but who can deny that in this shadow the sense of duty, the feeling of nobility and responsibility, the appreciation of the greatness and of the aspects of life, the earnest desire to develop and improve have grown, and because not with us a degree that has hitherto any whole society from end to end? It is something beyond words and beyond doubts. It is rather an alteration of perspective, a shifting of our sense of position, a vivid realization that we are responsible and accountable creatures, striving for substance and as the unity of the first shall stand from the unknown.

But if the world has grown greater with this knowledge it is not, I think, a sadder place in consequence. Surely we are agreed that the more noble and restricted pleasures of the present are deeper as well as more than the vulgar, foolishly made which served us often for enjoyment in the days of olden days no more and yet already so inaccessible. Those empty lives which were wasted in useless eating and being visited, in the worry of grief and unwelcome responsibilities, in the arranging and eating of elaborate and tedious meals have now found rest and health in the reality. The music, the gentle family conversation which comes from a simpler and sterner division of our time. With greater health and greater pleasure they

are richer than before, even after they have paid these increased contributions to the common fund which have so raised the standard of life in these islands.

There is some clash of opinion as to the exact hour of the great awakening. It is generally agreed that, apart from the different of time, there may have been local causes which influenced the course of the poison. Certainly, in each separate district the movement was practically simultaneous.

By SIR ARTHUR
CONAN
DOYLE

There are numerous witnesses that Big Ben pointed to two minutes past six at the moment. The Astronomer Royal has fixed the Greenwich time at twelve past six. On the other hand, Lord Jellicoe, a very capable East Anglian wherever he is, is convinced that the hour, in the Midlands it was at least six. In our own case there can be no doubt whatever, for I was seated in Challenger's study with his carefully-timed chronometer in front of me at the moment. The hour was a quarter past six.

An unusual depression was weighing upon my mind. The capitation of all of the beautiful night which we had seen upon our journey was heavy upon my soul. With my abnormal mental health and great physical energy any kind of mental clouding was a rare event. I had the Irish faculty of seeing was glass of humor in every thimble. But now the darkness was spreading and unbroken. The others were dozing, making themselves for the future. I sat in the open window, my hand resting upon my head, and my mind absorbed in the story of my mission. I could no longer to live? That was the question which I had begun to ask

myself. Was it possible to exist upon a dead world? Just as to preserve the greater body driven to itself the many, would we not feel an overpowering attraction from that vast body of humanity which had passed into the unknown? How would the end come? Would it be free a return of the poison? Or would the earth be unobscured from the asphixious products of universal decay? Oh, finally, might any vital situation arise upon and subvert our beliefs? A group of these facts upon a dead world? My mind was breaking upon this last dreadful view when some slight noise caused me to look down upon the road beneath me. The old entrance was coming up the hill!

I was conscious of the acute instant of the twittering of birds, of someone coughing in the yard below, and of a background of movement in the landscape. And yet I remember that it was that instant, coincident, experienced entrance which held me still. Surely and wisely it was climbing the slope. Then my eye fastened to the driver sitting hunched up upon the box, and finally to the young man who was leaning out of the window in some excitement and shouting a direction. They were all indisputably, aggressively alive!

Everybody was alive once more? Had it all been a delusion? Was it conceivable that this whole poison had incident had been an elaborate dream? For an instant my startled brain was really ready to believe it. Then I looked down, and there was the rising driver as my hand where it was trapped by the rope of the City bell. It had come back so, then. And yet here was the world re-created—how was life come back in so instant fall to the planet. Now so my eyes wandered all over the great landscape, I saw it is every direction and moving to my amazement, in the very same position as it had held. There were the gates. Yes, it could be that they were going on with their gear? Yes, these was a fellow driving off from a tree, and that other going upon the green were surely passing by the hill. The horses were slowly tramping back to their work. The woman had slipped one of her charges and then began to gash the promenade in the hill. Everyone had unconsciously taken up the thread at the very point where they had dropped it.

I rubbed my eyes, but the hill door was open, and I heard the voices of my companions, loud in conversation and vigorous action, in the park. How all about back

and laughed as we came together, and how Mrs. Challenger looked as all to her cousins, before she fairly threw herself into the last bag of her husband!

"But they could not have been asleep!" cried Lord John. "Think it all, Challenger, you don't want me to believe that those folk were asleep, with their strong eyes and will back, and that awful death-grip on their faces!"

"It can only have been the condition that is called catalepsy," and Challenger. "It has been a rare phenomenon in the past, and has, constantly been mistaken for death. While it reduces the temperature of the body, the respiratory apparatus, the heart beat so inordinately in fact, it is death, save that it is a movement. Even the mind can perform itself—here he closed his eyes and shivered—"could hardly perceive a serious outbreak of it in the future!"

"You must hold it catalepsy," remarked Mrs. Challenger, "but, after all, that is only a name, and we know as little of the truth as we do of the person which has caused it. The next we can say is that the victim either has professed a temporary death."

"That you do!" "And I not these!" he growled, and turned abruptly once more to the bag of his car.

There was a sudden grinning of white upon Challenger's face. The old lady had actually pulled up at Challenger's door. I saw the young man's feet set out from it. An instant later the man who looked as if he had been killed as if she had that instant been raised from the deepest sleep, appeared with a gasp upon a tree. Challenger, seated serenely as he looked at it, and his thick black hair seemed to be on his head.

"A Premonition!" he growled. Then, with a deprecating smile. "After all, it is not that the whole world should begin to know what I think of such an episode!" "That can hardly be the reason," said Challenger. "For he was on the road in his car before you the cross came!"

I looked at the man. "James Baxter, London Correspondent, New York Mailer?" "You'll see him," said I.

"Oh, George! You should be kinder and more considerate to others. Surely you have

"I do not now appreciate any such danger," said Challenger. The Presence looked even more preoccupied.

"You are Professor Challenger, are you not?" he asked.

"Yes, sir, that is my name."

"I cannot understand, then, how you can say that there is no such danger. I am assured to say you were better published about your name in the London Times at this morning."

"It was Challenger's name to look up!" "This morning!" said he. "No London Times was published this morning."

"Really, sir," said the American, in mild remembrance, "you must admit that the London Times is a daily paper. He drew out a copy from his pocket, and said: "Here is the letter to which I refer."

Challenger shivered and rubbed his hands. "I begin to understand," said he. "So you send this letter this morning?"

"Yes, sir."

"And came at once to interview me?"

"Yes, sir."

"Did you observe anything unusual upon the journey there?"

"Well, in fact, the truth, you people seemed more lively and generally better than I have ever seen them. The language was not so dull to tell me a funny story, and that's a new experience in this country."

"Nothing else?"

"Well, no, any, not that I can recall."

"And, now, what have did you leave London?"

"The American smiled."

"I came here to interview you, Professor, but it seems to be case of. In this regard, I believe, or in this kind, suggesting. You're doing most of the work."

"It happens to interest me. Do you recall the loss?"

"Sure. It was half-past twelve."

"And you arrived?"

"At a quarter past two."

"And you found a note?"

"That was so."

"How far do you suppose it is to the station?"

"Well, I should reckon the half part of five miles."

"So how long do you think it took you?"

"Well, half an hour, maybe, with that automatic in hand."

"So it should be there a clock?"

"Yes, or a little after it."

"Look at your watch."

The American did so, and then stared at it in astonishment.

"Say!" he cried. "It's twenty past six!"

That house has broken every record, some five hours from the station. But that's possible. The sun is pretty low now that I come to look at it. Well, there's something here I don't understand."

"How can you so summarily of anything remarkable as you came up the hill?"

"Well, I seem to recollect that I was nearly asleep once. It seems to me that I wanted to say something to the driver, and that I couldn't make him hear me. I gave it was the best, but I felt sorry for a moment. That's all."

"So it is with the whole human race," said Challenger to me. "They have all felt sorry for a moment. None of them have as yet any comprehension of what has occurred. Each will go on with his interrupted job as though his mind had been kept on the matter. I have continued his game. You, of course, will continue the issue of his papers, and very much amused he will be at having that an error in meaning. The young friend," I added, to the American, "with a sudden kind of excited curiosity," "may indeed wish to know that the matter has been safely through the present moment, which would be the Gold Street through the area of above. You will also find out for your own future convenience that it is day in New Friday, August the twenty-ninth, but Saturday, August the thirtieth is when one of our men."

Special Features Next Week

In no other British paper can you read such amazing stories as those to be found in SCOOPS. As Britain's only Science Story Weekly it is setting a new fashion in fiction. Here are a few of next week's special features:—

City of Mars

By W. P. Cockcroft

A sequel to one of the most popular stories we have ever published—"Catalepsy." From a dead earth, the last survivors of mankind have gone to Mars, and there they are the story of the construction of the Red World, a strange and thrilling inter-planetary drama.

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Amazing adventures with the command of the flaming frontier of the Great Belt. A great story by the author of our sensational serial, "Blaster of the Moon." It's a thriller!

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London! You get on the track of the Master of the Professor in a further story in this new wonder series. A tale to hold you enthralled.

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By M. Hugi

Captured by the abominations of Mercury, imprisoned in the radiant house of Haldar, surrounded by rocks that radiate death. Exciting, tense. . .

And many other Attractive Features

All in SCOOPS—On Sale next Thursday

James was seated all in a leap on the top of the car. It was his coughing which I had heard from above. He had been looking his head in vision, but now he was staring to himself and raising his eyes over the rail.

"Tongue bit hard?" he growled. "Can't hear things down!"

"What's the matter, Anthea?"

"Lekstemon bit (coughing, sir. Someone has been fiddling with the car. I expect it's that young dogger boy."

Lord John looked guilty.

"I don't know what's come with me," continued Anthea, staggering in his foot.

"I expect I came out upon you when I was looking low down. I seem to remember fiddling with the dog. But I'll admit I never left these laboratory type on."

In a confused moment the astonished Anthea was told what had happened to him and the world. The mystery of the sleeping laboratory was also explained to him. He returned with an air of deep distress that when told how an amateur had driven his car, and with absorbed interest to the few sentences in which our appearance of the sleeping laboratory was also explained to him. He returned with an air of deep distress that when told how an amateur had driven his car, and with absorbed interest to the few sentences in which our appearance of the sleeping laboratory was also explained to him.

"Was you outside the Bank of England, sir?"

"Yes, Anthea."

"With all these affairs inside and everything asleep?"

learned something from what we have under you."

He trotted and shook his big olivaceous head.

"A premonition, indeed! Eh, Malone? The word used in modern psychology, the ready hand of the quack and the assurance of the self-asserting man! When did they ever say a good word for us?"

"When did you ever see a good word on them?" I answered. "Come, sir, this is a man who has made a promise to me you I can say that you would be able to live."

"Well, well," he growled. "You come with me and do the talking. I protest in advance against any such outrageous invasion of my private life." Muttering and something he came rattling after me like an angry and rather ill-conditioned insect.

The dapper young American pulled out his notebook and plunged instantly into his subject.

"I come down, sir," said he, "because our people in America would very much like to hear more about this danger which is in your system, pointing upon the world."

"I have of no danger which is now pressing upon the world," Challenger answered, gruffly.

The Professor looked at him in cold surprise.

"I want, sir, the doctors that the world would run into a belt of poisonous ether."

IDEAS That Save TIME And MONEY

Here is a further selection of ideas sent in by our readers. If you have an idea that will be useful to others, turn it into cash. Write your idea down on a piece of paper in a pointed, with a sharp diagonal of symmetry, and send it to "Ideas," SCOPES, 15, Abchurch Lane, London, E.C. 4. Ideas will be published in SCOPES each week, with our own special explanation, and 2s. 6d. will be paid to the author of each idea sent. Each week the 2s. 6d. will be awarded to the reader whose idea is judged best. The idea will remain the property of the reader, but no manuscript or drawing can be returned, and SCOPES will accept no responsibility for any pattern arising from the publication of a reader's idea.

FOR CHOPPING MINT

Here is a handy and easily made chopper for a block of wood (2) fix an old tin can (4) to serve as a handle. To the bottom of the block fix four blades (1) by means of long bolts (3) as shown, leaving strips of wood 1/4 in. wide (2) to move the blades.



J. Main, Luton.
Award of 2s. 6d.

SEWING-MACHINE PIN CUSHION

A very useful pin cushion can be made by wrapping a piece of cloth several times round the arm of a sewing machine and sewing it into place. This will be found very useful as it is a perfect cushion at hand when using the machine.—L. B. Davis, Nr. Southampton. Award of 2s. 6d.

A NON-SLIP RULER

An ordinary ruler has a habit of slipping on a glass pane. This can be remedied by cutting two small squares of non-slip rubber and sticking one to each end of the underside of the ruler.—S. Bakewell, London, N.W. 12. Award of 2s. 6d.

A CHEAP MARKING GAUGE

A handy marking gauge can be made from a cotton reel. Cut a piece of wood half an inch wide (1) and 1/2 in. thick. This will slide through the cut in reel. Then



GAUPOHRE MARK

the cotton reel will slide in and out from one end of the wood, and the metal marker will mark.—R. James, Ebbw Vale. Award of 2s. 6d.

WARNING LIGHTS FOR SCHOOLS

When any vehicle is entering a school (2) school, the usual automatic pressure on the road which lights the traffic signals, could be adapted near the exit of the school as a provision of warning.

The same could also be used where road-narrowed turnings or awkward bends occur. Thus the red light would be warning, and a red light pressure on cars could pass and the red light goes out again.—R. Thompson, London, E. 12. Award of 2s. 6d.

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FIRST PRIZE WINNER

REMOVING THE GLAZE



A USE FOR OLD TYRES

Many a time when the rings of a wheel become slippery, making it dangerous to work on.

This could be overcome by fixing strips cut from old bicycle tyres on the rings of the wheels. This will make a new foot hold and lengthen the life of the rings.—R. Allen, Leeds 8. Award of 2s. 6d.

SPRINGING THE FRONT WHEEL

The diagram will show how this idea is arranged.

When the front wheel of the cycle has a bump, the axle (2) is pushed up, but the pull is not transferred to the shaft of the fork



(1) as a stand, because the spring cylinder (2) slides up the fork, and its action is absorbed by the spring (1).—K. V. Allen, London, S. 12. Award of 2s. 6d.

HOLDING SCREW THREADS

There often occurs a necessity for holding a bolt or other screw threads in a vice, but this cannot be done without damage to the thread.



When held across for the vice jaws are made up to the job, place it in the vice, and then clamp it between the jaws of the vice. The job will now be held firmly without damage to the thread.—L. Barker, London, N. 1. Award of 2s. 6d.

KEEPING THE FERNS WATERED

It is not always easy to water ferns in a house, and some people use a device which you can see in the picture. Try this idea.

To keep them well watered, stand the pots on a tray around a pail of water. Lead up the water with each pot by means of three strands of wool placed together. The water will be carried out of the pail by capillary attraction and will be led to the ferns.—H. Stenhal, Leeds 12. Award of 2s. 6d.

NAME-PLATE FROM GRAMOPHONE NEEDLES

Many of the records carried on a gramophone have a name-plate on the back, and these can be made into a name-plate.



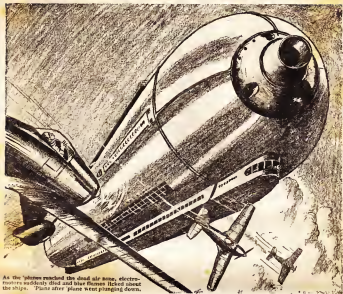
records, carrying the name-plate. Painted over with light varnish, this makes a neat and attractive name-plate.—A. McLeod, Glasgow. Award of 2s. 6d.

USING ODDMENTS OF SEALING-WAX

Pieces of sealing-wax are often thrown away as useless when they become too small to hold without burning one's fingers. Cut a piece of wire about two inches long. Heat it over a match, and then dip it into the small piece of wax. In this manner the wax can be used up to the very last bit.—Miss N. Dennis, Ca. Arden. Award of 2s. 6d.

ODD PIECES OF PENCIL

When you add pencil ends to a cup of boiling water and in a few minutes they will split in half lengthwise. The pieces at blackboard are now easily movable and make excellent tools for preparing pencils.—C. M. Cook, London, W. 6. Award of 2s. 6d.



As the 'phorus reached the dead air zone, electro-motors suddenly died and blue flames licked about the ships. 'Planes after' plane went plunging down.

ELECTRIC ZONE

* LOST IN THE VOID

IT WAS A representation in an age of marvels. A giant dirigible soaring slowly out from the glass-roofed hangar, the sun gleaming on the windward fabric of its colossal, stream-lined hull.

A thousand feet up on the inflated gas-pressure deck on the top of the strato-deck were looked far down to where the powerful motors, were, during the dirigible's own position on the flying brick.

The *Matador*, the world's largest flying craft, built for passenger and general transport work on the sea. Expert, intricate air atmosphere motor. A triumph of modern aeronautics, a veritable lion of the upper air that decided the biggest of man-made vessels.

As the huge dirigible was turned into gas, two alongside the aerial embarkation platform, a hundred thousand eyes were watching the big hatched fantasma passers, one disappear into the ball. A cheer rose from the vast crowd of spectators as the Minister of Aviation entered the *Matador*. Press cameras clicked, powerful amplifiers bleated the strains of a dance band across the concrete of the air port.

The *Matador*, ready to start on its maiden flight, was going to make history.

The big dirigible after that strong cloud, signals were exchanged between the commander at the glass-paneled control cabin, and the ground manager in the radio room at the air port. The mounting cables dropped for, and the dirigible rose slowly into the air.

From the rocket tubes in her stern came a spray of red sparks and yellow flames, which glowed out in her wake. The *Matador* was driven forward and upward at ever increasing speed. Finally, from the descent at one into below, came a faint rose as the raised thousands cheered the first absolute flight of Britain's first strato-ship.

A giant dirigible caught in the grim embrace of an electric zone of the stratosphere. A dead ship in dead air.

By Harvey J. GARFIELD

So Randolph Brown, Minister of Aviation to the British Government, moved down to walk in the saloon and walked forward to the control cabin. His square-cut jaw betrayed some of the optimism in his mind.

Right from the start he had pressed for the building of the *Matador*, knowing that just as Britain had sailed the waves, so would she achieve supremacy in the air. Only a man with the stubborn determination of Sir Hamilton Brown could have overruled the warning of the Latham. Now the *Matador* was a fact, and his responsibility.

He didn't enter the control room, where the commander and officers were now crowded on flying the dirigible in an altitude of eighty-five thousand feet and so to the London Pavilion section of the Empire state tower. They'd get enough to think of. He just stood by the water door and watched, tensely.

If anything were to go wrong, that the hundred passengers and half as many crew, with seventy-three millions of public money at stake, . . . He shook the thought from him; nothing would go wrong—nothing would go wrong. The design was perfect, the preliminary trials had proved that. And the new safety gas for inflation purposes gave experi-

Trapped in the Electric Zone

Johnny and was fairly sure fighter than any.

"No, nothing could go wrong . . . The shifter on the control console both hand showed fully thousand feet. Whatever level of water was below was lost in a flash.

It was currently still up here for a considerable distance above the low beam of the power generators and the sky, too, from the glowing rocket trails.

Nothing could go wrong . . .

The United Aviation Corporation had got the contract for the building of the *Wreath*. It was from the company's vast airport that the dirigible had taken off, and it was from the airport's control tower that the radio operator kept in constant touch with the flying strata ship.

Jimmy Blomquist, speaking directly into the transmitter, was worried, too. He knew that—yes, had operator in the radio room of the stratosphere would be the first to hear if anything went wrong with the *Wreath*. And he was afraid—terribly afraid—that some thing might go wrong. And not for Mr. Hamilton Brown's account.

You see, the five hundred passengers which the *Wreath* carried included the Minister of Aviation and his daughter. That was the snag. It was just like Kit Kisser to insist on putting his pretty head into danger.

At first his father had given her a definite "No," and Jimmy—and his father, too, merely a young man who had a particularly keen interest in his future—had asked another very definite "No." But Kit had gone past the mere and James was worried. The radio beam! and then . . . there were a while.

"*Wreath* calling United Aviation Air Port . . . *Wreath* calling United . . ."

"United Aviation," Jimmy interrupted urgently.

"Flying at eighty-five thousand, speeded two hundred and ten. Everything O.K."

"O.K.," Jimmy greeted with relief.

It had been suggested that the *Wreath* should cut the port every five minutes of the flight. Jimmy had stoutly maintained that if the dirigible failed to make contact with him after five minutes, he was to cut the *Wreath*.

That was how the world first heard of the disaster.

The *Wreath's* operator failed to come through on time. Jimmy, feeling a sudden emphasis on the job of his stomach, called the dirigible.

"United Aviation Air Port calling *Wreath* . . . United Aviation Air Port calling *Wreath* . . ."

Preparation gathered on his forehead, his fingers showed white where they gripped the edge of the transmitter. His hand forward, he was waiting to hear the first syllable of a knockdown from the *Wreath's* operator. Still silence.

A note of urgency in his voice now, rising to a higher note. "Calling *Wreath* . . . Calling *Wreath* . . ."

He switched in pencil and pad and hastily scribbled across the paper: "Minors fails to answer," and thrust it into the hand of a waiting boy.

"Get that to the Boss!"

He turned back to the transmitting, his was trying to find the great dirigible that was somewhere up there—eighty thousand feet above the earth. Or perhaps it won't there—no. Perhaps it was crashing down in flames or broken pieces. Perhaps Kit . . .

Suddenly he lost over the transmitter.

"Calling *Wreath* . . . Calling *Wreath* . . ."

He became conscious of a hand gripping the flesh of his shoulder. He turned to see Thompson, the general manager, standing over him.

"Good heavens, man, you've got to get them!" he breathed, the blue veins showing on his head. "Go on, cut them! perhaps their radio has broken down for a minute or

two. They'll answer, they must answer."

Jimmy went on calling, but now his own voice seemed to mock at him. He felt like a man who suddenly finds that he has been talking to himself. Yet, he was talking to himself. He went on—oh, he was talking to himself. If the *Wreath* were there. . .

★ THE DEATH ZONE

It happened without a second's warning. The *Wreath* had risen to eighty-five thousand feet, compass and radio disconnected, radio keeping him to his room. The dirigible had been in action for over an hour, and the passengers were losing the air's density at six thousand. Many of the men, widely were reaching, smoking or drinking—indulging in a combination of all three—in the lounge. There were rumpled during in the bathroom to the stream of the *Wreath's* own hand; a few of the more venturesome had donned the special oxygen apparatus and ascended through the air lock to the promenade deck on the top of the giant ball.

Everything was perfectly normal. Sir Hamilton Brown had turned his head for the twentieth time that nothing could go wrong. He had just watched Kit walk off to his cabin for a look when the disaster happened.

There was a sudden deafening explosion like the firing of a big gun, followed a thousand feet away. The great mass of the stratosphere vessel merged with the lower command of the officers. Then the interior of the dirigible was plunged into darkness as the electric lighting failed, and then it could be seen that the flames burst from the metal bulkheads, from the lower instruments at the strata ship's head from the top of the stairs, but . . . blue flames that flickered and disappeared, then with a sharp crack snuffed out again.

Deadly silence came for that infernal creature. The generators were silent, no sound from the rocket tubes, just a terrible silence, broken only by that faint crackling that was much a vaguely like machine gun firing in the distance.

"Radio still—completely!"

It was the commander shouting from the control room. Others and now shouted to down the whole length of the giant ball. A stunned, straggling to look back and self-possessed, went to him helplessly against one of the bulkheads. He collapsed in a weak, weak heap, and the little blue flames darted from the top of his outstretched hand to the metal floor.

A woman screamed. "He's died!"

Keep still—completely! the commander repeated. His words were upward in a flood of shouted questions.

"What's happened? Are we going to crash? Is the *Wreath* on fire?"

"I am men who had a money," written all over his forehead, but his nerve. He ran forward towards the commander, shouting. "They told me that strata ship was safe; I paid five hundred pounds for my ticket. . . . One of his wildly waving hands he a man stood. Then a spell over his whole body occurred, then he lay heavily.

"Keep still—completely!" the commander repeated for the third time, lifting at his day. "Keep still—no more voice now. . . ."

The metal bulkheads of the ship and many other metal objects are charged with high voltage electricity. Any person coming in contact with metal is liable to be electrocuted.

One of the passengers, a quiet looking man, spoke. "I think we all realize that the situation is somewhat serious, further, that no one member of this dirigible—no one here in your hands. I suggest, however, that some or pleasure to die to us. How has this disaster occurred? What is going down about it? When will we proceed?"

The commander's headless face twitched. He glanced vaguely at the Minister of

Aviation, who nodded back to him. He looked, then.

"I can tell you very little," Mr. Blomquist Preston, the aeronautician, who was traveling in the control room at the time of the accident, suggests that the crew is entirely unprepared. Their knowledge of the strata sphere being, though considerable, is still far from complete. It is Mr. Preston's contention that—that is, there are "air pockets" at lower altitudes—there are certain comparatively small areas in the stratosphere that attract all the surrounding electrical energy. These electrical pockets are found and disappear under varying conditions of temperature and gas density.

"You made the *Wreath* has entered one of these areas?" interrupted the passenger.

"That is Mr. Preston's contention," the commander and gravely. "As a result, the metal of this dirigible is alive with electricity. Our instruments, motor power, radio and so on have ceased to function. We cannot move until the electrical energy outside is dissipated. I must ask you all to be patient. In the meantime, efforts will be made to divide all accommodation into safety areas, and every man and woman who is trapped outside these areas is provided that instant death is likely to be the penalty."

The commander turned calmly, and made to move away.

"You said the radio is out of action," the passenger suddenly shouted, his lips trembling. "Does that mean that an S.O.B. has not been sent out; does that mean that nobody knows where we are?"

"Where it is found that no communication are effected from us a search will be made," the commander said quietly.

"My God!" whispered the passenger, and rushed into silence.

★ THE PERL OF THE BLUE FLAMES

LESS than an hour after the last radio signal had been received from the *Wreath* a flight of six thousand stratosphere was the command of United Aviation Air Port and followed by him the man Jimmy Blomquist, still lost over the transmitter, watched them as they headed past the glass of the control tower. Then he turned back to the microphone, still shouting. "Calling *Wreath* . . ."

The strain of the past hour was shown in his eyes, right eyes, his lagged face and mouthed blue. Every minute he had waited for a call on the long-distance phone reporting the finding of the missing gyro that had been the *Wreath*.

The Prime Minister had been informed, and it was on his instructions that no word of the missing strata ship had yet reached the public. But secrecy couldn't be indefinitely prolonged. The *Wreath* failed to arrive on schedule at Boulogne. . . .

Now the flight of stratosphere had been dispatched to attack the London Boulogne strata route with assistance to keep in constant radio communication with the airport. The leaders of the flight came through a few minutes later.

"Calling United Aviation Air Port. Flying at forty thousand and still climbing. Nothing to report. Over."

Jimmy gripped an acknowledgment, his mind filled with thoughts of the *Wreath*, of the Minister of Aviation, of the girl who had laughed at his risk. . . .

The flight of stratosphere climbed rapidly. At eighty-five thousand the leader faltered out, and his massed battalions forward at four hundred feet, as an hour. The stratosphere began to show it. The giant stratosphere hung motionless in space; with no lights glowing from its glass ports, no flames shining from its rocket tubes. Just a dead ship in dead air.

The flight leader spoke into the microphone of his transmitter.

The Rescue 'Plane That Came Back

"Calling. Calling. Eviction. No Post. Located objective. Approaching to insert gun. Over."

Then the pilot swung his 'plane down to buzz past the glow of the forward control cabin. Got to within a hundred yards of the gun's hull, when the steady purr of the electric-motor suddenly died. Simultaneously, the pilot's glowing hand tightened on the joystick, his face was torn with agony, his body locked spasmodically. Then the flight leader slumped forward, the whole top line flustered around him.

One of the machines had dropped in the rear of the rest of the flight. The pilot saw it all. There after, 'plane swooping down towards the motionless Arcton, and then suddenly plunging down out of control. Down and down, turning ever and over, plunging through the canopy air to the ground far in the distance eighty thousand feet below.

One man in one machine came back to the

spot to tell a heroic story of the terror that surrounded the lost dirigible. He told of the fearful horror that struck down the unsuspecting pilot of the Arcton long there in space like a dead thing.

"You suspect that there is nobody alive?" asked an Air Ministry official.

The pilot nodded dumbly.

"There were no lights on. I didn't get near enough to see through the glass. They must have seen us approaching, yet nobody signalled . . ."

Jimmy hit his leg. Somewhere he couldn't imagine him being dead; she was always so alive. Perhaps she wasn't dead; perhaps she was still alive, he told himself in sudden hope. And then he realized the horror of being alive up there—waiting for the rescue that could never come. Waiting for silence . . . and death.

The radio operator handed over his job to the care of an assistant and went out in person of the pilot who had come back. If

he had a talk with him alone, maybe he'd find out something—something more . . . something he could act upon. That's what he wanted—action; not just sitting and waiting for something to happen.

He found the pilot in the back-house, crumpled in a chair with his face buried in his hands.

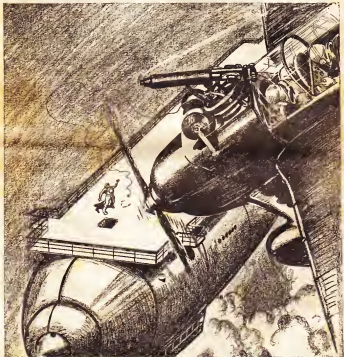
"How'd you reckon it happened?" Jimmy asked quietly.

The pilot looked up:

"Oh, it's a yes," he said with relief. Then, in explanation, "thought it might be one of those self-control grooves from the Air Ministry. Danger gripped him for a moment."

"Those fellows don't know what it's like on there; don't realize the danger. Most of 'em have never had their feet off the ground. Wanted to know why I didn't investigate closer . . . after seeing Baxter and Thomson and the rest die?"

He pointed to his feet in sudden realization. "I'll show you—thank you (loudly)



The pilot's finger compressed on the trigger, and the weighted cable stabbed out in an arc down to the promenade deck of the dead ship.

* SALVAGE IN SPACE

A STRATOPLANE stood outside one of the hangars, and Curtains was carefully examining it. A high voltage cable from one of the works generators was being jacked against the machine to test the arc reaction. The coil of the dynamotor had been replaced by a tubular cover.

"Good! Up to its bearing with an inch!" the pilot exclaimed. He passed the cable to a machiner with a screw-driver, and turned back to Jimmy. "Well, I reckon we can chance it; we'll stick everything—just as Chicago got over automobile wires—on Gregory Preston's theory. Let's get going."

The radio operator followed the pilot into the hermetically sealed cabin. Curtains started himself, but the aircraft appeared very lifeless; then they were contacting across the concrete and up into the cell ceiling.

They landed through the cloud layer and into the cold glare of the strong sun. Climbing steeply at nearly a mile a minute, it wasn't long before the pilot and landed and was standing at the controls along the London-Boston route. It was here that Jimmy suddenly noticed the gun project above the cabin. He pointed to it, quivering. "Why the manna!"

"Little pile of my own," Curtains confessed. "No good flying around close to the Atlantic unless we use violence. I got to get a gun first, and that's all I depend upon whether there's anybody moving about on the strato ship. I had this little gadget in stashed during the night. Actually, it's a converted aerial harpoon from one of the latest wireless 'planes. The 'shell' is lead and is attached to this drum of cable. The barrel of the gun is on a universal joint, swinging in almost any direction."

"If there's anybody still living in it I'll catch the end of the line. I've had it heavily insulated to make it safer for the ship at the other end—and to prevent it from becoming a high-voltage lead between the strato-ship and our plane. What do you think of the idea?"

"Well, I'll try it," Jimmy said simply. Half an hour later the point half of the dirigible came into view, still suspended motionless.

"Beats me why they couldn't come down if there was anybody aboard," Jimmy said definitely. "Demo's never too hopeful."

"I'd thought of that," the pilot put in. "—but you see indeed that all the driving machinery has been got out of order. That means they couldn't load the compressed gas chambers. Anyway, nobody will know for certain people soon."

Curtains brought the stratosphere to within a thousand yards of the dirigible and then backed away. He smiled grimly at Jimmy.

"Ready?"

The operator nodded. The pilot switched down the motor and swung the barrel of the gun forward to the first sign of a flying motor, but that queer thing lay in the arms and legs. Before they had time properly to realize that Gregory Preston had been right, they were handling past the plane at the control cabin, and—yes!—somebody was waving in there. Backed steeply and swung round again, and then true Jimmy recognized the commander, his face aglow with triumph.

"Still living," Jimmy breathed with relief. "Maybe we're going to succeed."

"Got to let 'em know our scheme," the pilot murmured thoughtfully. "I'll put as slowly as I can; you try to show him with your arms."

They swung past right then, before a sudden landing of the commander's head told them that he understood. They swung about, and presently the mid-air like figure of one of the crew appeared on the pressure indicator above the hull. He walked—or, rather, shuffled—along, and, clanking along the dirigible, Jimmy saw that his hands and feet

were stretched in long coils of safety. He stood there, waving.

Curious that the stratosphere error, backed round and hurried down to within fifty yards of the Waver. He judged it hesitantly. His finger compressed on the trigger, and the weighted cable snaked out to an arc and dropped just across the side of the pressure cable. Suddenly, the pilot backed round to face the warning device and saw the cable cut. Heed not moved above the dirigible, every nerve tensed to keep the cable slack.

They saw the man groping, lifting the leaded weight, saw him stretching the line to one of the main grids. Saw him wave an arm, and shuffle back towards the trap in the cockpit. . . . and knew that the crisis had come.

"Folks! The worst don't do it," the radio operator said definitely. "The Motez must be ready fifty minutes now or . . ."

"Neither so, nor might matters appear," Curtains explained. "There's practically no atmosphere resistance. We've got a special check if we go carefully."

Jimmy sat and watched in fascinated attention as the pilot took up the slack. Winding his circle over so tightly, until the cable was almost taut, was training was lost.

The stratosphere suddenly checked in its stride, then the pilot was pulling upon the throttle. The cable held, and there was no doubt that the dirigible was leaving in their wake.

Ten minutes later, Jimmy—watching anxiously behind a little group of people upon the pressure deck of the dirigible. Their heads and shoulders were crossed by the upper apparatus, but there was no mistaking their action. They came into the air in what was undoubtedly three moving items.

"Looks like we're out of the danger area," Curtains murmured. "If they can't do it, we'll make a hell of a good job as well."

Jimmy looked behind again, and saw that the little group on the pressure deck was now waving wildly. "Then he's now leaving—when the towing cable slackens between him and the dirigible coming up presently above. He's coming back to Curtains. Looks like they've got the robots. Easy, they're waiting for us all!"

"Make sure!" the pilot granted. Now there was no doubt about it. Jimmy could just glimpse the steady flashes of those wires of the hull. Curtains opened the throttle and released the brake on the cable drum. The line swung out and the red signal from the harpoon gun and dropped down. Jimmy saw one of the crew on the pressure deck curling it to.

"If they've got the robot tubes going the pressure must be working. Try the motor," the pilot suggested.

"Calling driver . . . Calling . . ."

Jimmy got no farther. A voice he recognized replied.

"Driver calling. Who are you?"

"Salvage plane just in front. Can you get down without accidents?"

"Yes, thanks. But please keep in contact."

Jimmy hesitated, then:

"Are the pressure O.K.?"

"Five fresh, remainder beyond."

"Inco. Artificial man in Miss Brown all right?" the operator asked with a queer tightening of his throat.

A signal that might have been a half-impressed chuckle—or perhaps it was just auto—came from the other end.

"Yes, she's all right. At last, she seemed pretty badly when she gave us a pong and came out of the air."

"Doesn't you could . . .?" he began to hear a few words with . . . Jimmy said sharply. "Tell her—tell her . . ."

"Tell her in wait until you get her down to the air port," broke in the pilot with a dry smile.

"I'll go up now . . . and come down the same way as the others!"

Jimmy put out a restraining hand, and gently bowed the other back into the chair. "Listen to me, Bob," he said quietly. "You want to show 'em that it was just a mistake and not find that brought you back alive. I want to go up there, too, to see what we can do."

"No, I'm rather late on a girl, and she's up there. So I've got to do something about it too. Can't we do something about it—both of us?"

The pilot smiled grimly.

"There's death up there. We can do—that's all we can do about it."

"Listen," the radio operator broke in. "I've got just one idea of what's happened in the Waver, all what happened to the other planes? Did you see anything that might give us a clue?"

Bob looked up again, and this time his eyes were glowing.

"You're right, my son. Those blue flames, just tiny flame lines when you shut the beam of the motor and Preston—the fellow who has spent his life studying atmospheric conditions and all that sort of thing—was telling us about a theory of how something about points of electrical energy. I remember it because I asked him the question. I'd been presenting on a proposed new state of matter thousands, and my motor started putting, and I had a space laughing at through my body just as if I'd got my toes on one of those shocking coils that I had when I was a kid. That's a place to tell us about his theory—and that's what his happened to the Motez!"

"Oh, yes," Jimmy agreed.

"Maybe they're still alive—some of 'em. Only those who were in direct contact with what would get a fixed shock. That's why they're shouting, fighting, why there's no radio, why she can't move."

"And why the rest of your flight died before they got close enough," Jimmy added soberly.

"If we could translate a 'plane—had some means of getting in contact, of leaving the dirigible clear of that point . . . the pilot was warning him to break it. . . . He was to break quickly—get the wing stage and leaving struts painted with liquid rubber, get an engine away as quickly from high-voltage electric. Maybe it would stand up to it."

"What do we start?" Jimmy broke in.

The pilot waited for about the first time that day. "Go ahead; I'm only thinking at the moment. I'll get along and have a talk with the works manager, and try to get him to do something between now and dawn. Meanwhile, you'd better turn in. If there's anything doing I'll give you a call before I start. That starboard cable guy is going to make his words . . . see why at the other."

The pilot hurried off, the same good smile on his face.

Jimmy went back to the control room and tried to think it out. Bob's plan seemed O.K.—in theory. That was the trouble, it was all theory. They weren't sure about that single charged pocket up there that was supposed to have sent men and machines to safety to their doom. They weren't sure that they'd be able to visit the lower dirigible. They'd never been a salvage job like it.

The radio operator didn't sleep, the thought of the Motez hovering motionless eighty thousand feet up over to that. Were they still alive up there? Was Kit still alive? He heard somebody push away the curtain of his office in the back-house. The operator called over and recognized his pilot in the evening light.

"O.K.," Bob greeted lightly. "I'm leaving in the motor if you're coming."

Jimmy rolled out of bed, pulled on his trousers with one hand, and grabbed at a wet sponge with the other. He was standing out on the concrete of the airport within six minutes.



Back To Armour!

SOMETIMES it would seem that progress lingers in this or that and lingers in circles.

The ultra-modern vessel, the German motor ship, is driven by the wind just like any old windjammer. Instead of sails, how-

Here's a SCOOP

A Weekly Review mainly about Ourselves
and of the Wonders of the World
of To-day and To-morrow

Queer Cases Baffle Doctors

FROM various parts of the world come reports of queer medical cases which puzzle the ordinary person—and the skilled doctor, too!

Recently Science published an account of a *Neurotic* boy who, as the result of a nervous disease, found that his limbs were slowly turning to stone. It was known that an excess of calcium in the body was the cause of this disease—and when a vital organ is affected the patient will die.

Now there is the *Neurotic* woman of Parma, in Italy, from whom burst a ray of light shone at intervals. The flash lasts a second, and so strong does it become that a darkened room is lit up momentarily, yet it does not cause a shadow to be thrown!

Meanwhile, the patient has slept on, but her pulse, presently at 76, has now risen to 140.

There must be some relation to the matters which we now know of?

Recently discharged from a London hospital, a man who had the world's record temperature and who lay at home, died, unable to be dead.

Such cases, from H. K. Water, from his experience with them, up until a patient is discharged from hospital—100 degrees Fahrenheit was known before it was discharged. The highest temperature of this extraordinary patient was 115 degrees, yet no more low temperature. Most people die if their temperature reaches 105 degrees!

And lastly there are the cases of the boy who sweated and the man whose blood changed to water. The boy was found to be suffering from a complaint which made him suddenly shut himself at intervals. No half-lyer either! His blood could be heard thirty yards away from his home.

His disease which killed a man by turning his blood almost to water was the most rare type of anemia in which the red corpuscles of the blood which normally form and carry the blood healthy no longer does so and the patient dies through a lack of blood cells.

Days As Long As A Month

SOME time, hundreds of millions of years in the future, the day will be as long as a month!

This, as a scientist who has studied the subject believes, will be brought about by the effect of tidal friction on the Earth's rotation.

It is on this he believes that the day will be approximately a month long, but owing to the slow Earth the day is not likely to exceed this time long.

From this period onwards the Earth and the Moon will revolve as they would if attached to opposite ends of a rigid pole and revolve half the Earth will move on the Moon at 20, while the other half will always be on the sky!

ever, the modern vessel has huge rotors, which the wind driven round and so generate current for the ship's electric system.

One of the earliest of such a form of power—the water wheel—was once used on a dam in the case of giant hydro-electric undertakings.

And now America, Mecca of all that is modern, is starting to bring back seawater! In the town of Calumet, Ohio, policemen are being equipped with a type of date form of armor as a protection against dangerous criminals. Shaped plates of heavy steel cover the officer's body as a protection against gunfire, while his car is all that is going on by means of a bullet proof glass window.

In addition, there is an aperture through which the policeman can return an attacker's fire.

It's Two Days To The Moon Now!

ACCORDING to the estimate of Prof. A. A. Bailey, director of the Lyons Research Society, in France, a rocket propelled by vacuum could be back which would complete the journey from the Earth to the Moon in two days!

Controlling The Traffic

THAT if an electronic vehicle actuated traffic signals have become a common occurrence at all busy cross-roads, it is as a result of looking back and follow the course of their development.

The idea is not a new one, for as far back as 1880 the City of Westminster, with a view to helping the police control traffic, introduced a method of regulated signalling. It took the form of a semaphore, with red and green lamps for right-of-way, but an unfortunate explosion put a premature end to this experiment.

Early in the present century, signals like ordinary railway signals were used on certain main roads and also for traffic control on Tower Bridge.

Color light signals were first used to control street traffic in New York in 1848.

The first installation of the modern British traffic signal was made in 1926 by the Ser-

vice and General Electric Railway Signal Company, at a busy road junction in Westminster.

The modern signals are now familiar to everyone, and the latest development of the idea, brought out by the same company that made the original installation is the "Automatic" system, was first used in November last year, and is now giving satisfactory service in several places.

Vehicles approaching the road junction pass over portable detector mats installed in the paths of the various traffic streams, and to notify their movements to an electrically

operated controller. These "mats" are like the eyes and ears of the policeman. The signal changes take place only when the instruction is clear, so there is no necessity for long "order" periods.

We now have quite a workable system, but little improvement and additions are constantly being made.

What next . . . ?

To Test A Driver—Look At His Face

A PSYCHOLOGIST can, just by looking at your face, tell you definitely whether or not you are able to drive a car really well. He has worked out an accurate series of points for which he looks, and he declares that his "look-over" is just as conclusive as that obtained by the subject being made to drive a car under the eye of an expert driver and examiner.

Among his "clues" are the following: All ability to drive a car well comes from having a sense of weight. The strength of this faculty can be told by looking at the size of the eyebrows ridge which is above the pupil of the eye.

Where the skull is lacking so is a sense of balance lacking.

A jaw which tapers towards the chin and has wide and high cheek bones offers proof of skill in carrying out movements of all kinds. And drivers will include those whose eyes are set very close together and also people with a short upper lip.

No More Hunting House Names

JUST at a time when postal authorities in England are starting to tackle the nuisance of householders in long streets calling their houses by fancy names and refusing to have their numbers, comes a scheme which would wipe out house names and street titles altogether.

An American Army officer has suggested to the British authorities a variation of the military method of house numbering. For this it would be necessary to take a corner point as "Zero," and from it, right across the country, draw a sequence of north and south dividing lines. These would again be marked by other lines at right angles, so that on paper the country was cut up into vast squares. The large squares would again be divided into squares of a very small size, so that by reading up and down large and small squares, as with graph paper, it would be possible to locate any given spot quickly.

Now, if every one of those lines was numbered, all it would be necessary to do would be to give the north and south and also the east and west numbers of any house, and a letter would find its way there without the slightest chance of error.

By the use of special envelopes and cards, on which the desired number could be punched, automatic machines could sort this type of mail at very high speeds.

It's certainly an idea!



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